This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

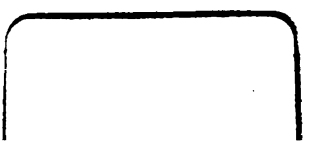
+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`



THE

SANITARIAN.

A MONTHLY MAGAZINE

DEVOTED TO THE

PRESERVATION OF HEALTH, MENTAL AND PHYSICAL CULTURE.

VOLUME XLVIII., JANUARY TO JULY, 1902.

A. N. BELL, A.M., M.D., Editor.

T. P. CORBALLY, A.M., M.D., } Associate Editors.
HARRY KENT BELL, M.D., }

BROOKLYN-NEW YORK, N. Y.: A. N. BELL.

1902

BOSTON MEDICAL
MAR 12 1903
LIBRARY.

Entered according to Act of Congress, A. D. 1901, by A. N. BELL, in the office of the Librarian of Congress, at Washington.

CATALOGUED
MAR 12 1903

BOSTON MEDICAL
MAR 12 1902
LIBRARY

6909

THE SANITARIAN.

JANUARY, 1902.

NUMBER 386.

INFLUENCE OF WATER UPON HEALTH AND LONGEVITY.*

By A. L. WOOD, M.D., of Brooklyn, N. Y.

Some of the members of this Club seem to think it matters not what they eat, or what they drink, or what their other habits of life are; that as long as they *think* they are well and strong they will remain so. If this is the case, I do not see why they should join or attend the meetings of a club whose object is the study of health and longevity.

I do not question the fact that there is much truth in the saying that "As a man thinketh so is he," but the thinking is not all. If you take poison into your stomach, thinking it will not harm you, you had better have a doctor near with an antidote or stomach pump. Or, if you intend drinking water contaminated with the germs of typhoid fever, you should make your will and prepare for the happy hereafter.

While the subject of this paper is Water, I do not wish to convey the impression by what I may say of its importance for health and longevity, that I think water and its right use is the only thing that will aid us in attaining a long, useful and happy life. There are many other things of great importance, but the proper use of pure water is, perhaps, the most important of all.

The question of food, involving the kind, quality, quantity, mode of preparation, time and manner of eating, mental and physical conditions attending digestion, etc., is very closely related to, and intertwined with, that of drink. So, also, is pure air. The three, water, solid food and air, are all foods which help to build up and keep the tissues of the body in repair, and are all absolutely necessary to sustain life. One can live but a few minutes without air, only a few days without water in some form; but men have lived

*Read at the meeting of the 100-Year Club, New York, November 26, 1901.

many weeks without food other than air and water. Then there are the other essentials of exercise, rest and sleep, mental and moral conditions, etc.

I wish to say here that I regard long life as desirable only in proportion to the perfection, development and happiness attained by, and the usefulness of, that life. To simply exist for a great number of years, a burden to yourself and friends, as is too often the case, is both undesirable and unnecessary.

The general use of water as related to health, happiness and longevity, is too extensive a subject for one short paper, and I shall confine myself mainly to its use within the body.

Internal Cleanliness.

Cleanliness of the surface of the body, of the skin, is rightly regarded by thinking people as necessary and very desirable for health and comfort. If this is true, and nearly every one admits its truth, while comparatively few practice it to the most desirable extent, how much more important is it to keep the *interior* of the body, the meat within the shell; the bones that support and sustain; the muscles which move and give flexibility, grace and strength, constituting, as they do, about three-fourths of the body; the brain and nervous system which control and direct all; the vital organs, and the organs of digestion, assimilation, secretion and excretion; and especially the blood, which nourishes and strengthens all; how much more important, I repeat, to keep all these pure, clean, and in perfect working condition. Pure water, and plenty of it, does this, and it can be done in no other way.

Important as is the external bath in promoting the cleanliness and healthy action of the skin, it has much less influence upon health and longevity than this daily bathing of all the blood and tissues of the body in *pure water*. When I say *pure* water I mean that which is absolutely free from all animal, vegetable and mineral substances whatever.

The proper performance of every function of the body, digestion and assimilation of food, the circulation of the blood, the processes of secretion and excretion, and the regulation of the temperature of the body, in fact every vital action, is dependent upon the quantity and quality of the water which is daily taken into the system. If water in insufficient quantity, or of impure quality, is used, every organ is impeded in its action, and every function disturbed; the free circulation of the blood through the microscopic capillary tubes of the entire system, one of the most important of life's

processes, is seriously interfered with; depuration through the various organs and channels of excretion is retarded, and consequently a slow but certain poisoning of the system takes place.

Water constitutes nearly three-fourths of the body. This fact alone shows its great importance. The blood is about 80 per cent. water, the muscles 75 per cent., the brain nearly 80 per cent., the gastric juice 97½ per cent., the saliva 99½ per cent., and even the bones contain 13 per cent., and the teeth 10 per cent. of water.

Water is continually passing from the body, and always carries with it more or less of the waste, worn-out and poisonous materials constantly being generated within the system, as well as the injurious substances introduced from without. Every expired breath is loaded with watery vapor filled with these impurities. They are constantly being thrown out through the millions of little sewers, the perspiratory ducts of the skin, in the form of insensible perspiration. So, also, with the kidneys and other channels of elimination, and water is always the vehicle by the aid of which they are disposed of. If they were not thrown out of the body they would soon clog the wheels of life and produce disease and death, as they are doing all over the world.

We will use a sponge as an illustration of this cleansing and purifying process. If the sponge is badly soiled, the first time water is squeezed through, it will come out dark and muddy; the second time less so; the third time less still, until at length the water has done its work and issues forth as pure as when it entered. So with the body. It is filled with impurities, and, unlike the sponge, they are constantly being added to by the worn-out particles of the system which are of no further use, but must be disposed of to make room for new ones capable of furnishing renewed life and vital force. Water is the only medium capable of absorbing and carrying these impurities out of the body without injuring or destroying it. The larger quantity of water squeezed through the sponge the quicker and more effectively it will be cleansed. It is the same with the body—the more water drunk, the quicker and more certainly it will be purified. And again, the purer the water which is used the sooner and better will the cleansing be accomplished. Any housewife knows that if she uses clean water to wash and rinse her dishes and clothes the work will be better done, and the article washed be purer, whiter and sweeter than if soiled water were used, yet how few realize the vastly greater importance of using the purest water to wash and keep pure and sweet the caskets which contain their immortal souls.

Quantity of Water Required.

The best authorities agree that under ordinary conditions at least two quarts of water per day should be drunk by the average individual. Laborers and others exposed to a high degree of heat, who perspire freely, require a much larger quantity. I have known men to drink from two to three quarts of water in the hot rooms of a Turkish bath within an hour, and at the end of the bath their weight was less than at the beginning, showing that they had lost through perspiration more than they had drunk.

Care should be observed not to drink so much water at a time as to burden the stomach, nor to take it so cold as to chill it. Where the stomach is weak, and in some other conditions, warm or hot water should be used. Large quantities drank at meals or soon after interfere with digestion. Most of the water should be taken from half an hour to an hour before meals. Ice water should not be drunk as a beverage.

In all kinds of fevers and inflammations, defective nutrition, inactivity of the liver or skin, diseases of the kidneys, constipation, rheumatism, gout, and all the various diseased conditions caused by uric acid poisoning, the drinking of still larger quantities of pure water is highly beneficial.

Dr. John T. Nutt, in a recent publication, says: "Very few Americans drink enough water. Eight or ten glasses of water should be taken daily by the average person."

Gould & Pyle's "Cyclopædia of Medicine and Surgery" says:

"At the present day the subject of drinking water involves the interest, attention and welfare of every civilized community. The question of health largely depends upon the water consumed, in which may reside the micro-organisms of disease and death."

Prof. George B. Fowler, M.D., of the New York Post Graduate Medical School, says:

"I venture the statement that the cause of one-fourth the cases of disordered digestion in fashionable life is the lack of sufficient water in the dietary."

Prof. George Henry Fox, M.D., of the College of Physicians and Surgeons, says:

"It is quite certain that few people drink too much water, and I feel sure that many unpleasant feelings and symptoms of actual disease would quickly disappear if the sufferers only appreciated the value of this best and cheapest of all remedies. The interior of the body needs cleansing as much as the exterior, and a liberal supply of pure water in the treatment of our patients will often

bring about the desirable results which drugs have failed to accomplish."

Madame Patti, the famous singer, who, at the age of sixty, is as perfect a specimen of womanhood, both in appearance and reality, as she was at thirty, in telling how to retain youth and beauty, said:

"Drink nothing but water or milk—especially drink water—you can't drink too much of it."

In speaking of uric acid causing rheumatism, gout, biliousness, constipation, slow digestion, inactivity of mind, etc., Prof. William G. Thompson, M.D., of the University of the City of New York, says:

"Water itself, if taken in sufficient quantities, by increasing the fluidity and consequently the solvent powers of the blood, is often an effective remedy in these cases."

To dilute the blood when it becomes thickened, and as a consequence circulates with difficulty, water is a quick and the only effective remedy.

Importance of Pure Water.

Having considered the absolute necessity for water, some of its various internal uses and the quantity required, we now come to the vitally important question of its purity or impurity.

As a rule in Nature like produces like. Pure food and drink, under favorable conditions, insure purity and health of body, and, other things being equal, purity and health of body give purity and health of mind and soul. Conversely, impure food and drink produce impure and diseased physical conditions, and these in turn influence all mental and moral states.

If we desire a strong, active, healthy body, free from pain and disease and obedient to our will, and one that shall so remain for one hundred years or more; if we wish an active and vigorous brain that shall give us clean, wholesome, energetic thoughts to the end of life, let us see to it that none but the purest and most suitable solid and liquid food is supplied to our digestive organs, under proper conditions, to make and keep the body and brain clean, strong and enduring. Pure water is the only liquid agent in existence that will do this.

Professor Simpson, a noted scientist and physician, says:

"The complacency with which we swallow the filthy, impure, disease-bearing water which is delivered through poisonous pipes to our homes affords a spectacle of self-abasement as melancholy as it is disgusting."

Prof. Charles F. Chandler, of Columbia University, the noted chemist and analyst, says:

"Pure water is hardly second to pure air as a life-giving and life-protecting agent. It is the most potent servant the sanitary authorities can call to their aid."

Nicola Tesla, the celebrated electrician and inventor, in the "Century Magazine" for June, 1900, says:

"For every person who perishes from the effects of a stimulant at least a thousand die from the consequences of drinking impure water. This precious fluid, which daily infuses new life into us, is likewise the chief vehicle through which disease and death enter our bodies. The germs of destruction it conveys are enemies all the more to be dreaded, as they perform their fatal work unperceived. They seal our doom while we live and breathe. The majority of people are so ignorant or careless in drinking water, and the consequences of this are so disastrous, that a philanthropist can scarcely use his efforts better than by endeavoring to enlighten those who are thus injuring themselves."

Typhoid Fever and Cholera.

It is generally conceded that no one ever has typhoid fever or cholera unless he eats or drinks the germs that produce them. The lesson of the Spanish war should be noted. Surgeon-General George M. Sternberg, of the United States Army, states officially:

"The total number of deaths reported in our enlarged army, including regulars and volunteers, from May 1, 1898, to April 30, 1899, is 6,406. Of these, 5,438 died of disease, and 968 were killed in battle, or died of wounds, injuries or accidents."

It is well known that impure water was one of the chief causes of the great mortality. If the soldiers had been provided with an abundance of pure water, I fully believe nine-tenths of that number would have been saved. It has been stated that on the war vessels, where nothing but distilled water was used, not a single death occurred from disease. The Marine Battalion, 500 to 600 strong, used distilled water from the ships while on shore duty in Cuba, and had none of the enteric fevers so common in the Fifth Army Corps.

Testimony to fill volumes could be adduced in regard to the injurious results of the use of impure water.

During the year ending May 31, 1900, according to the last census, there were 35,379 deaths from typhoid fever in the United States, nearly all of which were caused by disease germs in water.

The truth of this cannot be questioned. In the same year there were 46,907 deaths from diarrhœal diseases, the great majority of which were due to disease germs and the various organic contaminations contained in water used for drinking and cooking. There are many other diseases produced partially or wholly by impure water, so that I feel I am fully justified in stating that more than one hundred thousand deaths annually are caused by taking impure water, in one form or another, into the system.

Let us stop a moment and consider what this means. It means two full regiments, of one thousand men each, marching quietly but painfully down to death each week in the year, and from a cause which is known and wholly preventable. During the entire Spanish war our loss in battle, and deaths from wounds and accidents, amounted to less than one regiment of men, while, by the use of impure water, we are losing two whole regiments of our citizens each week, and still how few people ever give a thought to its prevention.

It is calculated that about ten times as many persons have typhoid fever and survive, though they never fully recover from its effects—and many of them are seriously injured for life—as there are who die from it. So it is with diarrhœal, dysenteric and other water poison diseases, though the proportion of recoveries to deaths is much greater than in typhoid. From this it will be seen that more than twenty thousand people, besides the two thousand who die, are made ill each and every week by impure water.

Just think of it. Ponder it well. Do not forget it. Look at the 2,000 coffins stretching out in an unbroken line for nearly three miles, and another line of beds of sickness extending almost thirty miles. Beside these coffins, see the crowds of sorrowing ones, mourning the loved and lost, and beside the long line of the sick and suffering see the anxious friends, the nurses, and the doctors. And all this is repeated every week in the year. All this, and more, is caused by disease germs and organic and mineral impurities in the water we drink and eat. Is it any wonder we require the services of 130,000 physicians in the United States?

As an element of destruction the most deadly war is a complete failure compared with the terrible results of swallowing the silent, invisible foes of human life and health which lurk in innocent-looking water.

Diarrhœa and Dysentery.

Prof. William T. Sedgewick, of the Massachusetts Institute of Technology, and biologist of the Massachusetts State Board of

Health, in the "Journal of the New England Water Works Association" for March, 1896, gives an interesting account of the city water supply of Burlington, Vt., and its effect upon the public health, which is very instructive, and from which the following information has been gathered:

The natural conditions, location and surroundings of Burlington are exceptionally favorable to health. From 1870 to 1894, a period of twenty-four years, there existed a "mild epidemic of diarrhœa," gradually growing worse year after year. The same was true in a lesser degree of dysentery, and, while the deaths from typhoid fever were not considered excessive, they far exceeded what they should have been.

This long-continued and excessive prevalence of diarrhœal and dysenteric diseases was attributed to organic impurities in the water supply, which was taken from Lake Champlain, into which the sewage of the city was discharged.

In 1894 the in-take pipe of the water supply was extended three miles from the sewer outlet into the lake, with the result that, to use Prof. Sedgewick's own words, "the peculiar diarrhœal disturbances that had so long prevailed in Burlington have, since the extension of the in-take pipe, wholly ceased; and the physicians are enthusiastic in their recognition of the salutary change, which they attribute entirely to the improved water supply."

This was written in 1896. In answer to my recent letter of inquiry, I have received the following reply from Dr. Watkins, the present health officer of Burlington:

"BURLINGTON, Vt., November 21, 1901.

"Dr. A. L. WOOD, Brooklyn, N. Y.:

"DEAR SIR—In reply to your letter of inquiry relative to the diarrhœal disturbances which at one time prevailed in Burlington, will say that the conditions which followed the change of the in-take of water from the lake have continued to the present time. Burlington is very free from such troubles. Sincerely yours,

(Signed) "H. R. WATKINS,
"Health Officer."

Thus it will be seen that the remarkable, and for a long time unaccounted-for, twenty-four years' reign of diarrhœal disorders, from 1870 to 1894, ceased suddenly and absolutely upon the change for the better in the city water supply. Not only this, but for seven years past the same freedom from these intestinal diseases has continued.

Does not this conclusively prove that this large class of diseases which cause the death of nearly 50,000 people a year in the United States, in addition to the 35,000 killed by typhoid fever, are caused by the use of impure water?

City Water Supplies Unsafe.

The question naturally arises, What water shall we drink? What water shall we use in the preparation of the various articles of food and the different liquids, other than simple water, which we introduce into our stomachs to nourish the body, or for other reasons? I will say here that there are thousands of intelligent people who would not think of drinking our impure city water, who allow their cooks to use it in the preparation of all their food, tea, coffee, etc., without once thinking that it is more important to use pure water for cooking than for drinking. But more of this later.

Where shall we obtain pure water? Certainly not from city water supplies. They are rendered impure and dangerous to life and health by the drainage from cultivated fields, where the rains wash the fertilizers, both animal and commercial, into the streams, and by pollution from shops, factories and other sources, as will be shown further on. That such conditions exist can be seen by any one who will take the time to investigate, as I have done.

The Ridgewood water of Brooklyn contains an immense number of bacteria and animalculæ. At one time, a few years since, there were as many as six millions of a kind of vegetable starfish named Asterionella in one glass of this water. This is all the more interesting from the fact that each one of these bacteria contains a minute globule of oil. There would have been a good opening for the Standard Oil Company. The decomposition of these bodies naturally produced a decidedly unpleasant taste and smell. There are more or less of these bodies present at all times.

What a vegetable garden the Ridgewood reservoir must have been when a single glass of its water contained six millions of vegetable ornagisms. This Asterionella, be it remembered, is but one of over 200 different forms of animal and vegetable life contained in our city waters. They are all fully illustrated by George Chandler Whipple, the present biologist of Brooklyn's water supply, in his recent book, "The Microscopy of Drinking Water." Five minutes spent in examination of these illustrations ought to be sufficient to cure any one of the desire to either eat or drink Ridgewood water, whether its inhabitants are living or dead.

I would refer any one desiring to investigate the condition of the city water to an article in the May, 1901, number of the "Brooklyn Medical Journal," by Dr. Hibbert Hills, now director of the bacteriological laboratory of the Boston Board of Health, but who a few years since was chief biologist of the Brooklyn Health Department, with sanitary supervision of the watershed. Also to the annual report of the New York State Board of Health for 1898, which contains definite statements of the condition of hundreds of farms, residences, shops and other places bordering the streams and ponds of the Brooklyn watershed, where the drainage from horse and cow stables, barnyards, pig pens, hen houses and yards, rabbit pens, duck yards and ponds, stagnant and filthy water pools, piles of manure, ashes, garbage and all kinds of animal and vegetable refuse, together with actual sewage from houses, slop sinks, cesspools, urinals, privies and water closets, empty into and form a part of the delicious Ridgewood water which the people of Brooklyn have been accustomed to brag about and drink in its natural state or in the form of mineral waters, ginger ale, soda water, tea, coffee, etc., and to eat in all kinds of food prepared from it; in their bread, cake, pies, puddings, cooked fruits and vegetables, soups, fruit ices, etc., etc.

Any one who can drink the city water or any beverage made from it, or eat anything cooked in it, or prepared with it, after reading these articles, must have an exceedingly strong stomach.

These articles, be it remembered, refer to the Brooklyn water, which, in the past, has enjoyed the reputation of being one of the purest of city waters.

For the delectation of the inhabitants of Manhattan Island I will say that their Croton water is much more impure and unwholesome than Brooklyn's Ridgewood. I think it is superfluous to say anything more about Croton water.

The only way to avoid this pollution is to keep the watersheds which gather the water used entirely in a state of Nature, that is, free from cultivation and population. This may possibly come in the next generation, but probably not in this.

Many people who realize the danger of using the impure city water, boil it and feel happy; others filter it and rest secure. Let us see if they have remedied the trouble.

Boiled Water.

Boiling impure water, aside from the destruction of the life of

some of the disease germs, the elimination of some of the gases and the deposit of a portion of the carbonate of lime, *always makes it more impure.* Boil a gallon of water until there is but a quart left and the quart will contain all the impurities of the gallon, except as above stated, and be nearly four times as impure as before. Continue the boiling and all the impurities, animal, vegetable and mineral, except the gases thrown off, will be reduced to one solid mass. The water which is evaporated and passes off as steam is very nearly pure. But, you will say, it kills the dangerous germs. We will suppose it does, but their remains furnish material for bacterial life to feed upon. Do you relish the idea of eating in food, or drinking, their dead and decomposing bodies, which poison the water by their decomposition? The fact is, scientific investigation has proved that boiling only kills the *feeblest,* the least injurious germs.

Prof. Percy Frankland, Ph.D., F.R.S., the noted English scientist, and a recognized authority on water, says:

"The germs which propagate epidemic or zymotic diseases may be boiled three hours and yet not be destroyed."

Try a simple experiment. Put unboiled city water in one bottle, and the same that has been boiled for half an hour or more in another, cork tightly and keep in the sun or in a warm place for a week or longer, and note the difference. The unboiled water will show a marked depreciation in looks, taste and smell, but that which has been boiled will be so much worse in these respects that no one would think of using it. In comparison with these you can submit a properly sealed bottle of pure distilled water to the same conditions, and at the end of a year it will be found to be as pure, sweet and perfect as when first bottled.

Filtered Water.

The domestic filter is a dangerous article of the worst description. People rely upon it in fancied security, while in 99 cases out of every 100 the water is more dangerous to health and life after passing through it than before. All soluble mineral salts and all impurities of every description, including the deadly poisons from disease germs, which are held in solution, pass through the very best filter at all times as freely as the water itself, and, unless the filter is cleaned and sterilized several times a day, which is rarely if ever done, the germs of typhoid fever and other diseases multiply with great rapidity within the filter itself and pass

through with the water. Many eminent chemists and scientists have testified to the truth of these statements.

While water laden with the germs of disease and the poisonous substances called toxines produced by them, and decomposing animal and vegetable matters, poisons the system and produces typhoid and other fevers, and many acute intestinal and other diseases, and causes the sudden death of thousands, the mineral elements contained in the water we drink, and in that which is used in preparing our food, are far more disastrous to health and life, but, being much slower in their action, are consequently unrecognized and unthought of.

A French physiologist has truly said:

"A man is as old as his arteries."

Please remember this, for it is very important, "A man is as old as his arteries." What makes our arteries old? Young, healthy blood-vessels are very elastic and allow the blood to circulate freely through them. In old age they become hard and unyielding, their capacity is diminished, and the blood stream becomes smaller and moves with less rapidity. These changes are caused by the deposit within the walls of the blood-vessels of fibrinous and gelatinous substances, and of lime and other earthy compounds contained in the water taken into the system in food and drink. This deposit is liable to take place in the dense structures of any of the joints, in the tendons and muscles; in short, wherever the blood circulates, which, of course, is in every organ and tissue of the body, in the heart, the lungs, the digestive organs, the various organs of secretion and excretion, the brain and nervous system, etc., producing various diseased conditions, impairing the action of one and all, and hastening the time when the human machine will cease to act and the spirit take its departure.

The following from Dr. C. W. De Lacy Evans, the noted author, physician and surgeon, of London, states the case truly and forcibly:

"The combinations of lime held in solution in the water we drink, when taken into the stomach, are soon distributed throughout the system and deposited in all the tissues, exactly as they are precipitated and form incrustations on the bottoms of kettles in which water is boiled. The result is general induration, partial, and often, in some organs and tissues, complete ossification. The bones become brittle, the joints and muscles stiff and rheumatic; gravel and stones form in the bladder; the kidneys, liver, heart,

nerves and brain become indurated and sluggish in their action; all the bodily functions are impaired; the nerves weaken, the mind loses its vigor, the memory fails, and senility and death creep on."

The evil influences of hard and mineral waters are, therefore, chief producing causes of the conditions that constitute old age as well as many of the more serious diseases of mankind, and demand the earnest consideration of every one who desires health, activity and length of days.

It is a common idea among the people that the minerals contained in spring and other waters are necessary to properly nourish the body, but chemists and physiologists know that inorganic minerals, such as are contained in water, cannot be assimilated and used, but must be removed from the body or remain to obstruct and impair vital action. A volume could be filled with scientific testimony as to the truth of these statements in regard to minerals in water.

Our food contains, in organized forms suitable for immediate use, all the minerals necessary for the needs of the body.

All city supply waters, and all spring and well waters, necessarily and inevitably contain more or less of these inorganic minerals and earthy matters in solution, and are objectionable in proportion to the quantity present. The purest are the best, but the purest are not good enough. The purest spring waters, and the most popular ones, are those which come nearest in analysis to distilled water.

Some of the so-called spring waters sold in this city are nothing but city water which has been passed through ordinary, improperly cared-for filters. This I personally know to be a fact.

The presence of organic and inorganic impurities in the spring waters sold in this and other cities is a matter which demands the serious consideration of the boards of health of such cities. In the last annual report of the Connecticut Agricultural Experiment Station the result of the analysis of twenty-four spring waters, sold in the State and elsewhere, showed that fourteen of them were unsafe and unfit for use on account of organic contaminations alone. The report of the Massachusetts State Board of Health gives the analysis of forty-five spring waters sold in that State, which showed that thirty-four of them contained the waste organic products of human or animal contamination, or, in other words, filtered sewage. The spring waters of Massachusetts and Connecticut are probably no worse than those of other States.

No dependence whatever can be placed upon the quality of

spring waters. They may be comparatively good at one time, and very bad at another. The amount of organic and mineral matter which they contain varies with the season of the year, with the amount of rainfall, and many other changing conditions.

Distilled Water the Purest and Best.

The purest and best and the only absolutely safe water to use for drinking and the preparation of all foods and artificial drinks is that produced by distillation. There are many processes of distillation, but the most imperfect one produces a water far superior in purity and healthfulness to the very best spring waters under their most favorable conditions. The nearest approach to it in purity is rain water, which is distilled water of Nature's own production, when collected on clean surfaces, in uninhabited sections, where the air is pure and uncontaminated by smoke, dust, city and factory gases, etc.

I wish to correct a quite general impression that boiled water and distilled water are practically the same. In boiling, the steam, the pure part, passes into the air and is lost, while all the impurities are left behind and condensed in the boiled water; while in distillation the pure steam, being freed from the impurities of the water, is condensed into liquid form again, giving a pure and wholesome water.

But some will say distilled water has a flat, insipid, disagreeable taste. This is true of distilled water produced by the old processes of distillation, which do not get rid of the ammonia and other gases which in boiling pass off in the steam.

The most modern and perfect process of distillation not only eliminates these gases, but, to assure a perfect product, *redistills* the distilled and purified water, giving *double distillation* and an absolutely pure and palatable water for drinking, cooking and many other uses in the household, and in the arts and manufactures. Unlike all spring and city waters, double distilled water is always uniform in quality and always pure.

Pure water is colorless and odorless. Any water, be it distilled or not, that has the slightest disagreeable taste, color or smell, is more or less impure and unsafe to use.

Distilled Water a Great Solvent.

The great value of distilled water, aside from its purity and palatableness, is its great solvent power, and the property of absorbing any impurities with which it comes in contact. "The Cen-

tury Dictionary" says: "Of all liquids, distilled water is the most powerful and general solvent."

Nature's distilled water, in the form of rain, percolates through the earth, and in its course dissolves and absorbs various organic and inorganic substances with which it comes in contact, thus rendering it impure. In the same way distilled water taken into the body in food or as drink, circulates through the minutest parts of the system and dissolves, absorbs and carries with it out of the body the unused and waste organic and mineral matters that poison and injure the system. In this way it purifies the blood and tissues, washing away the urea, uric acid and other poisons that produce rheumatism, gout, congestion of the liver, kidneys and other organs.

Dr. De Lacy Evans, before quoted, says:

"Distilled water, used as a drink, is absorbed directly into the blood, the solvent property of which it increases to an extent that it will keep salts already existing in the blood in solution, prevent their undue deposition in the various organs and structures, and favor their elimination by the different exeretæ. If the same be taken in large quantities, or if it be the only liquid taken into the system, either as a drink or as a medium for the ordinary decoctions of tea, coffee, etc., it will in time tend to remove those earthy compounds which have accumulated in the system, the effects of which usually become manifest as the age of forty or fifty years is attained.

"The daily use of distilled water facilitates the removal of deleterious compounds from the body by means of the excretæ, and therefore tends to the prolongation of existence.

"The use of distilled water may be especially recommended after the age of thirty-five or forty years is attained; it will of itself prevent many diseases to which mankind is especially subject after this age; and were it generally used, gravel, stone in the bladder, and other diseases due to the formation of calculi in different parts of the system, would be much more uncommon."

The presence of organic and mineral substances in water destroys this solvent power in proportion to the quantity present, and, while not removing from the body as much as it should, it also leaves some of its own impurities in the system.

A German chemist, who evidently knows nothing about physiology and the laws of life and health, has stated that distilled water is absolutely poisonous, and that it is dangerous to use it because it dissolves the earthy salts and removes them from the system. This is one of its most valuable properties, for it only dissolves the

excess of these salts, which are deposited throughout the system as foreign substances, and thus frees the body from their health-impairing and age-producing effects. It has no such an effect upon the living tissues of the body. If distilled water is a poison, then God is poisoning his children every day of their lives, for He distills every drop of water on the earth over and over again continually.

If it is a poison, why did I not die years ago, for I have used distilled water nearly twenty years? During the past year I have probably taken into my stomach, in food and as drink, an average of a gallon a day—365 gallons, or nearly 12 barrels of distilled water, and I still live—in fact, I am more alive than I was one year ago? Do I look as though I had been seriously poisoned? If this is poison, then I want more of it, for the more I use, the stronger, healthier and more active I become.

If you will not say anything about it, I will tell you a secret. The people who are trying to sell any kind of water they can get hold of as being the product of their particular "fountain of youth," guaranteed to cure all the ills of the flesh, have industriously circulated this statement of the German chemist for financial reasons of their own.

Other Effects of Distilled Water.

For beautifying the complexion, the external, combined with the internal, use of distilled water is the most effective agent. A noted physician says:

"To insure a permanently smooth and clear complexion, within the reach of all, wash the face and hands daily with distilled water. Its great solvent power will produce a wonderful effect."

Nothing but the purest distilled water should be used in the sick room, for the toilet or nursery, or for cleansing the teeth, mouth, etc.

Frequent washing of the head with hot distilled water, combined with vigorous manipulation, is the most effective means of stopping the falling out of the hair and of restoring it when lost, in cases where the hair follicles are still alive. I have known several cures by this means.

The other internal medical uses of distilled water are many and varied, but I will only have time to refer to a few of the most important, hoping some of those who join in the discussion will do the subject full justice.

As an emetic to wash out a foul stomach as a soiled dish is

cleansed, and to allay irritation and relieve pain, it is the most simple, harmless and effectual remedy.

As an enema to remove obstructions in, wash out, cleanse and relieve pain and congestion in the intestines, it is of great importance. For these purposes it should be used cold, tepid, warm or hot, according to conditions. This form of the internal bath does what the late eminent Prof. Armour often advised to have done—it flushes the sluiceways of the body.

As a diuretic, to increase the depurative and cleansing action of the kidneys, the drinking of large quantities of distilled water produces a wonderful effect, and without the slightest harm to the kidneys or the system generally.

In a torpid condition of the liver, constipation, inactivity of the skin, etc., the free use of distilled water is highly beneficial.

It is of great service in nervous affections. Dr. Charles L. Dana, professor of nervous diseases in the New York Post Graduate Medical School, says:

"American neurotics do not drink water enough. They have half-desiccated nerves, and desiccation increases nervous irritability."

On account of its powerful solvent properties it is a valuable aid to digestion, assimilation and nutrition, especially when the food is cooked in it, and in removing from the system the causes of rheumatic and gouty affections.

I, in common with many other physicians, prescribe the free use of distilled water to my patients, and always with good results.

There is one subject to which I wish to call your particular attention in its relation to health, comfort, and the prolongation of life, and, to illustrate, I will give a little of my own Personal Experience.

In the natural course of life, as ordinarily lived, the muscles, with their tendons and the ligaments that bind the bones together at the joints, gradually contract and become stiff and inelastic, and, in many cases, rheumatic. Why does this occur? Simply from the gradual accumulation of lime and other mineral salts from the water we drink and from that which is used in the preparation of our food. As a rule, people take more organic minerals, the only ones which can be assimilated, into their systems with their food than are required, especially after youth has passed, and these should be kept in solution by the free use of distilled water and quickly washed out of the body.

I have used distilled water for drinking, as before stated, for

nearly twenty years, and most of the time during the past year I have used it much more freely, drinking from two to three quarts per day, and using it entirely for all cooking purposes. During that time I have improved greatly in health and strength, and especially in the flexibility and elasticity of the joints and muscles. From twenty-one to twenty-five years of age I was actively engaged in teaching physical culture in public and private classes, schools, colleges and gymnasiums in New England and New York, and within the past six months I have been able, without any special effort, to accomplish things in the way of flexibility of joints and muscles which were simply impossible for me to do with the greatest amount of training and exertion at any time during the previous fifty years. I will state here that I was never one of the loose-jointed kind who can tie themselves up into knots, but was firmly knit together.

Elasticity and Flexibility.

As you see, I can easily bend the wrist backward until the fingers are nearly parallel with the forearm. Then, again, a few months since I discovered that I could perform a common baby trick with ease, whereas I hitherto completely failed, though I had tried it hundreds of times. I refer to the baby practice of putting its toes in its mouth. I do not care to illustrate that in public, but will do so privately, if necessary to satisfy doubters.

I will now give an illustration of flexibility which few young people even, unless they are of the loose-jointed variety, can equal. I know I could not do it, even when in constant physical training, 40 years ago. It is simply this. I stand erect with the feet together, and, *not bending the knees,* stretch forward and downward till the fingers of both hands touch the floor directly in front of the toes. Now this is very easy, but few of you can do it. Now I close my hands and touch my fists to the floor. That you will find much harder. Again, I will place the palms of the hands upon the floor, still not bending the knees. I can stand on a box six inches in height and still touch the floor.

If the free use of distilled water has not made this change in me at my time of life, nearly sixty-two, what has done it? I would very much like to know. I can see no other cause, and I firmly believe it is the only one. If you wish to retain, or, if lost, to regain as far as possible, the conditions of youth, then I earnestly advise you to give this matter your serious consideration.

When you get home to-night, and before you forget it, I wish

you would all try the last simple exercise I illustrated, which, by the way, is one of the most valuable of all exercises for daily practice, and see how well you can do it. Remember, ***you must not bend the knees.*** There are doubtless many present who cannot come within a foot of the floor.

If you will drink two or three quarts of distilled water a day, and use it for cooking, for the next six months, most of you can easily do what I have done.

You may ask, "What good will it do?" It will do what it has done for me. It will make you stronger, healthier and more active, both physically and mentally; more flexible and elastic in body; it will improve your digestion and give you purer blood and a better circulation, consequently, a more active skin and a clearer, fresher complexion; it will eliminate the excess of earthy salts and mineral substances which makes young people old and old people stiff, rheumatic and helpless; and it will add many long years of health, happiness and activity to your lives. Is it not worth a trial?

All waters, except distilled, whether plain, filtered, boiled, pasteurized, or electrically treated, including all spring waters, are more or less impure and unwholesome for all drinking and cooking purposes. The purer the water the better for all uses, and, as proved from chemical analysis by the chief chemist of the Brooklyn Board of Health, and others, the double distilled water is the purest of all. It is also perfect in taste and appearance.

Distilled Water for Cooking.

The injurious effects of bad water are the same, whether taken into the system in the form of drink or in food.

For cooking, distilled water is a delightful luxury, as it gives a specially clean and delicate flavor to all foods and drinks prepared with it.

For health and longevity it is more important to use the purest water for the preparation of all foods and drinks by cooking or simple admixture than for drinking, for the reason that more water is usually taken into the system in that way. Distilled water has been freed from all animal, vegetable, mineral and gaseous substances by the modern processes of double distillation, and is odorless and colorless, as absolutely pure water always is. All foods and drinks prepared with it are superior in delicate quality and taste, as well as healthfulness. This is especially true of all breakfast cereals, tea, coffee, cocoa, chocolate, soups, meats, breads,

fruits and vegetables. The color, texture and keeping qualities of breads, fruit ices, etc., are noticeably improved by it, as has been repeatedly demonstrated by bakers and caterers who have tested it in comparison with other waters.

Water containing impurities has a defined taste produced by them, which is intensified in all articles made with or cooked in it just to the extent the water used in baking and cooking has been evaporated. The water which in cooking passes off as vapor, is pure, all impurities being left in the food. The pollutions in a gallon of water used in making bread, for example, will all be retained in about one quart left after baking, consequently, the bread will contain all the defilements of the original gallon, and the water left in it be four times as impure as before. The darker color and impaired taste imparted to foods by impure water are due to the bacteria and other animal and vegetable organisms with which it is packed. The greater coarseness of texture and harsher quality are owing to lime and other earthy salts and minerals. The quicker drying and shorter keeping properties of bread, etc., are due to the same causes.

All foods cook quicker and are made more tender in distilled water than in other waters, especially in those that contain much mineral matter, like the Ridgewood.

It is the great solvent property of distilled water that makes all foods cooked in it more delicate and tender, particularly when soaked in it for a time before cooking. The mineral substances contained in all other waters have the opposite effect.

The dead and decomposing animalculæ and bacteria in city waters supply the germs of putrefaction that make the food stale and unfit for use much quicker than when prepared with an absolutely pure water, and certainly these millions of putrefying animal and vegetable bodies do not improve the appearance, taste, quality or healthfulness of food. Quite the contrary.

In conclusion, I will say that this subject of the use of pure water is the most vitally important one that can engage the attention, not only of those who desire great length of days, but of all who wish to make their earth lives as healthy, happy and useful as possible, as a preparation for the better and higher life "beyond the veil."

SIR HENRY THOMPSON ON DIET.

Sir Henry Thompson, who until he relinquished active practice was the foremost genito-urinary surgeon in Great Britain and

worked contemporaneously with Bigelow, is now hale and hearty at the age of eighty-two. He is not only a great authority on his own branch of surgery, but also on dietetics. He also interests himself in the subject of cremation and is president of the English Cremation Society, whose objects he has done much to further with his pen. He has just published a remarkable book on "Diet in Relation to Health," in which his personal experience is a striking object lesson. Thirty years ago, at the age of fifty-two, he gave up alcohol. For the sake of experiment five or six years back he tried the effect of a claret glass of good wine at dinner every day for two months. Then the sick headaches and pains in the joints from which he had suffered in early life came back until he abstained again. Moreover, "after abandoning alcohol, the joints gradually lost their stiffness and ultimately became as supple and mobile as they were in youth, and continue absolutely so to this day." He adds: "It may be fairly said that one example does not prove a case. But it is not a single example, and really designates a very large class of active men possessing a more or less similar temperament of which a type is here described." Half our bodily ills are due, he believes, to improper feeding. The necessity for diminishing the amount of nourishment taken as one grows older is not appreciated. "The extra glass of cordial, the superlatively strong extract of meat" are mistakes. Sir Henry draws an alarming picture of the head of the family sinking to decay because his affectionate spouse plies him with dainties he cannot digest—the egg whipped up with sherry, the insidious calves' foot jelly, the inopportune cup of cocoa. She urges him to try patent foods which are so "nutritious" that his stomach cannot stand them, and she imagines that even his drinks must have nutriment, forgetting that the primary object of drink is to satisfy thirst, and that to take milk, for example, with meat is one of the greatest dietic blunders that can be perpetrated. Even the dentist shares in his condemnation. He gives the patient a set of masticators as efficacious as the originals, but he does not warn the patient that the body needs less food than in the heyday of life. Though not a vegetarian, Sir Henry maintains that three-fourths of our food should be vegetable. This insures a lighter and more active brain. The light feeder, after his meal, has fresher wit and more cheerful temper. He does not snore in the armchair. Dyspepsia is unknown to him.

THE UTILITARIAN PRINCIPLES OF TAXATION AND THEIR RELATION TO ALTRUISM.*

By R. S. GUERNSEY, of the New York Bar.

TAXATION AND THE TENEMENT HOUSE PROBLEM.

The tenement house system, that now prevails in large cities to such an extent as to thoroughly awaken humanitarians and alarm legislators, has grown up during the last half century. The demand for cheap rents is one of the chief causes of this system; convenient distance to centres of work and business, thus saving the time and expense of travel to the toilers, is another cause. We have already seen to what extent local assessments and taxation in cities affect the price of rents, which capitalists and investors must obtain or they will seek other investments than those that might judiciously, and would, be placed in improvements and buildings on and about real estate—and thus increase the supply of that necessity in cities.

The time and expense and annoyance of travel, and low rent as well as many other local conveniences, are constant and potent inducements to encourage crowding in tenement houses. The factory by day and the tenement by night is all the life of the toiler and his family, and is now the prospect of millions of people. They are divorced from the soil. They must live and work in rooms where the sun never enters. The air they breathe must reach them through dark passages and foul courts. Congestion of population has become such an evil that expansion has become mandatory, to ensure the physical and moral development of mankind that is due to the helpless and unfortunate. This applies to the congestion in business that is prevalent through commercial concentration, in dwelling places as well as in shops and factories.

Besides the better opportunities for obtaining employment in cities by the vast majority of any population, there are other facilities offered—by the public protection of water, food, schools, police, parks, health, sanitation, law and order and security of individual rights and comforts that extend to the weakest and most lowly and provide opportunities for individual improvement for all conditions.

*Continued from Vol. xlvii, p. 301.

Among all these facilities for happiness the pre-eminence of New York City is such that no place or locality can successfully compete with anything found there except in the price of rents, which for all buildings are relatively excessive, and can be, and should be, made lower for those who must now dwell in tenement houses, or who choose to have comfortable homes convenient to their business.

It was under such conditions and circumstances that our cities were rapidly built up in the last quarter of the 19th century. The dawning of the 20th century shows us that much more is needed and demanded by this utilitarian age that is tempered by the enhanced feeling of the intelligent acknowledgment of the brotherhood of men, and need of their protection by appropriate legislation.

Since 1850 the population of the cities of the United States has increased tenfold, while the rural populations that live outside of towns and villages of between one thousand and four thousand inhabitants (being now five million) have only increased twofold, as shown by the census of 1900, there being about forty-three millions engaged in agriculture.

Tenement house regulation, by laws requiring the modes of healthful and safe building, and better sanitary surroundings in shops and factories, are the results that have been achieved from time to time. It now devolves upon us to provide remedies for similar conditions and to prevent the increase of similar evils in the future. How is this to be best done? Rapid transit is trying to help, but it is not the best way, nor the only one. It is only temporary. We must encourage the growth of more business and industrial centres and the building up of more homes that are demanded by the most populous and industrial classes of our city, state and nation.

We may have nuclei of dwelling places in the suburbs already, but we need more of them. The millions of human beings that are now crowded into tenement houses without proper light and air can be induced to take up better quarters. Rapid transit is not sufficient to do all this. The inducements must be low rent and conveniences to enable the family to retain as much of their wages for personal needs and gratifications as the tenement and flat house accommodations now allow. The East Side tenement house occupants do not now have to pay carfare to get to their places of work. That expense saved enables them to better provide for themselves and their families out of their wages. The locations of the factory and place of work are largely governed by their accessibility

to those persons who can be obtained at the least rate of wages to do the work. Thus the locations of the factory and workshop and the dwellings of operatives are largely dependent upon each other, and each has an influence that favors the growth of the other; hence they cause congested centres of population and business. Nearly all industrial trades can be as conveniently carried on in less crowded parts of the city as where they now are. There is much work done in the most crowded portion of New York City, below Fourteenth Street, that can be done as well or better elsewhere—in the suburbs. The vast array of young men and young women employed as accountants and stenographers and the like in some of the offices and counting rooms down-town could do the work elsewhere, nearer comfortable homes, without the time and expense of travel, and be in better light and air, with more healthful and attractive accommodations, and less expense to themselves and to their employers, than now. Rapid transit seems to encourage a continuance of these conditions of business centres.

Business and industrial centres will necessarily change the base of their supplies. This includes homes for employes and their families; this, in turn, implies the supply of the needs of families, and this includes all the wants that human nature demands. This may, and will undoubtedly, draw away some things that have already grown up in present localities and prevent further growth in those directions. This change of the base of demand and supply will help solve the problem of congested centres of population in cities, which rapid transit is now looked to to relieve. It will still be needed for those who may choose to have residences in or outside the suburbs and who can conveniently afford the time and expense of travel daily, as well for their families in their occasional visits to the large retail shops and stores that will always be sought for in cities, where some kinds of purchases must be made.

In localities where the means of transportation are susceptible of competition, the rates of fare and other accommodations and growth of facilities will be largely governed by the public demand. This gives an advantage over localities where the means of travel is furnished by a monopoly in streets, as is the case in cities.

The land in our boroughs is now practically nearer our business centres than was Fourteenth Street when we could only rely on horse stages for transportation, and then to only a small section of them. The present modes of transportation and means of communication by telegraph, telephone and express service are such as to render our suburbs nearer to the great centres of business than

Bleecker Street was one hundred years ago. To telephone is easier than it was then to communicate with an adjoining room. With all these modern aids to business, we need and can have other business centres, as well as other dwelling places. This is now being more rapidly recognized by the growth of suburban places. We can see that this extends to New Jersey and Connecticut as well as to nearby places of easy access within New York State.

The city of New York is now in a condition to retain this overflow and direct it to the new sections within its city limits. Rapid transit within the city's bounds will help and encourage the location of factories and shops; and the homes of toilers will follow them if other conveniences are there. Factories and shops now locate in or near cities because it is easier to obtain there labor such as they may desire. Mill and factory sites are not alone selected because of availability of water-power; but more for the convenience of transportation of material than for anything else. This material may be human labor.

The factory laws and the labor laws, and the tenement house and building and school laws, are now in a favorable condition, and encourage, and almost demand, the building up of sparsely populated portions of our boroughs; not only for dwelling places, but for new business centres, such as residential people require, without the time and expense of travel.

New York City was once the leading city in manufactures. It is a significant, prominent fact that during the past thirty years the manufacturing industries of New York City have declined in greater proportion than has its commerce. They can be restored. It is opportune, now that we have the Greater New York City in full operation and a home rule amounting to almost independent government; with all the water front facilities and railroads, internal and terminal, at its command; with its vast territory for cheap and comfortable homes; with the ready means of obtaining raw materials from the markets, at home and abroad; and with the means and facilities for the distribution of manufactured products that the home and foreign markets may demand, at a price that would cause us to fear no competition.

If the right public policy is pursued, they can be carried on with greater profit and economy and with more conveniences than in any other locality; and a great civic improvement for the toiler, as well as an economic one for the capitalist, will prevail. It is not necessary to construct many bridges, tunnels and railroads, and maintain them at the public expense, to induce the building up

of healthful homes and suitable residences within the borders of our city. The construction of streets and sewers in anticipation of future growth is of great importance, being necessary to the establishment of other business centres, as well as to the location of dwellings.

Instead of spending money to extend, open and widen old streets in the old part of the city, would it not be better for the community to have the same amount applied toward the expense of opening and improving streets in the suburbs? We have before seen how state and county aid is devoted to the construction of good roads. Why should not city aid help pay the expense of opening, extending and improving streets that are now only roads in the suburbs, but which will soon be populous streets?

The construction of docks and piers would also influence the location of some kinds of factories and shops. They are constructed at the public expense, because they belong to the city and earn revenue for the use of the city; they are not to be considered in connection with the cost of the construction of streets and sewers.

Would it not be better to construct streets and sewers in part at the public expense and reduce the annual taxes on real estate by obtaining revenue from other sources, rather than pursue the antiquated system of having all local improvements made at the expense of the private owners and obtaining revenue for public purposes by annual taxation of real estate?

The uses of streets in cities are for many purposes—for buildings and for convenient access to them. But the multitude of structures and other matters require that the streets shall be used for many public purposes that are not confined to local and abutting owners or tenants, as we have before seen.

In the encouragement of home building, the question of local assessments and taxation on local improvements is of more importance than anything else. We have already seen the extent of this cost, which is borne by the private owner, and its effect on the price of rent. The reduction of rent, then, should be sought for, as we have before seen, in the reduction of taxes and assessments on land and the structures upon it.

The building laws are favorable for the erection of dwellings that do not come under the restrictive provisions relating to tenement houses, and they can be supplied to tenants, with a good margin as an investment to capitalists, where the land values permit, at as low rent as tenement houses. The fear of future

heavy assessments for local improvements is also a great detriment to the building up of the suburbs where they are yet to be made.

Where the expense of opening a street or building a sewer is great, a portion of it should be borne by the city at large, because it is used for public purposes. On this principle it is that a portion of the cost of streets more than fifty feet wide is borne by the city. Why should not the city bear a portion of the expense of constructing streets and sewers done under the supervision of city officials?

Streets in cities are of primary importance; and, under our building, tenement, factory and sanitary laws, the city cannot extend much further by the erection of new buildings except as the streets are made and improved to the extent of grading and sewering, before any building for a dwelling can be erected in the vast domain of the several boroughs. If new buildings are not erected, and the old ones not capable of being repaired, depopulation to a large extent must take place, and continue until our streets are constructed to meet the requirements of tenants and builders.

The cellar population that existed in New York City in 1864, the extent of which appeared, in the report of the Citizens' Association relative to the sanitary condition of the city, to be fifteen thousand persons, were dispersed by mandatory legislation in 1865. The same report also contained statistics showing the total number of tenement houses without sewers to be four thousand; and the total population in unsewered houses in the city at that time was over one hundred thousand persons.

Under the existing laws and regulations a tenement house cannot be built where the grade of the street is not established, where it cannot be supplied with water, and where there cannot be a sewer connection. There are miles of streets below Grand Street in New York City that have no sewer in some parts of them, and many miles of streets between Grand Street and Fourteenth Street that are similarly situated. Large factories and shops must now have sewer connections. In this way, the dwellers in cities have new conditions to confront.

After the survey and mapping out of streets and establishing the grade, one of the first movements by the municipality in the suburbs should be the selection of schoolhouse sites. The location of shops, factories and dwellings will be greatly influenced and controlled by school accommodations. These sites can be selected when streets are laid out, and before they are regulated and graded,

and can be built upon as soon as convenient—when the population requires it.

Public school accommodations and facilities are as important an inducement in the selection of a family residence as is occupation of the members of a household. School facilities may be the cause of inducing not only the establishment of shops and factories, but of tenement houses and dwellings as well.

The growth of business centres will do more to silence the popular but vain demand for free railroads and free ferries than it will to maintain them at public expense. The annoyance of travel can be avoided, as well as the time and expense to and from places of employment.

The establishment of additional business centres will solve the rapid transit question and cheap fares in a more satisfactory and economical manner than by any other way. To reside near the place of employment, wherever it may be, is better than to have cheap fares and rapid travel for many miles. No fare is better than cheap fare, and all will appreciate it by choosing it when they get an opportunity. If any choose to travel, they can still be gratified; but to be compelled to do so is not so desirable for toilers as for pleasure-seekers, or for those that desire suburban dwelling places.

To devote so much money to rapid transit and to bridges and tunnels, yet neglect streets in suburbs, is a clumsy and temporary way of dealing with these unnatural conditions which are now excrescences of cities—unnatural because it is a detriment to encourage anything that will tend so much to hinder and destroy life, health and progress, that by nature of man should be allowed to all —home life—not to spend time and expense in travel.

Cities will continue to grow and expand. Provision should be made by the present generation to meet such conditions. The lesson and example of the plan of laying out of streets for New York City as adopted in 1813 should be sufficient to prevent a like error in the present suburbs.

When the municipal authorities prescribe how and when certain matters shall be done, although for the benefit of a few, relating to future conditions, and do not materially change the existing state of things, there is less fear of harmful and unjust injury to property than when any attempts at betterments are contemplated or ordered to change existing conditions.

The cellar population that existed so numerously in New York City forty years ago were dispersed by mandatory legislation in

behalf of humanity. The tenement houses of that period have also improved. The class of houses that have since grown up in their stead have a scale of variations of improved conditions, from the lowest type up to the modern flat, without the privacy of a home. The physical, moral and intellectual progress of man demand that the family should be protected by home life.

The importance of these questions will be readily understood when we reflect that they now affect the lives of millions of human beings among us; the disposition of these questions will affect the lives of untold millions of human beings yet to be born.

(*To be continued.*)

THE TOMB OF ESCULAPIUS.

"Greece Medicale" (Syra), September ("Jour. Amer. Med. Association," December 7, 1901), Svoronos.—Twenty years ago the excavations at Epidaurus revealed a very beautiful temple with a subterranean labyrinth with no entrance. Archeologists were unable to determine the purpose of the building nor to whom it had been dedicated, if really a temple. The building was distinguished by a dome, but no reference could be found to it in any writings. Svoronos believes that he has solved the mystery and that the structure is the tomb of Esculapius. He has found a coin of Epidaurus with a representation of the temple surmounted by a statue of the goddess Hygeia. Similar subterranean labyrinths found in other temples and in Egypt were always tombs. When heroes were deified the priests kept their burial place a secret, and this probably occurred in the case of Esculapius, who was buried here and the ornate temple was erected to his honor after he had been made a god. These assumptions have been confirmed by Svoronos' recent discovery of a work by Rouphinos, who lived in the fifth century, at a time when Christianity was dispelling the old traditions in regard to mythology. He describes the temple of Esculapius at Epidaurus and mentions the dome and the statue of Hygeia.

VACCINATION, ANTITOXIN AND TETANUS.

OFFICIAL REPORT OF THE CAMDEN BOARD OF HEALTH CONCERNING THE CASES OF TETANUS WHICH OCCURRED IN PATIENTS WHO HAD BEEN VACCINATED.

We have thoroughly investigated the cases of tetanus occurring in Camden, and beg to present to the public the following facts and conclusions:

1. Samples of all the different makes of vaccine employed in Camden have been tested for tetanus germs by the State Bacteriologist of New Jersey, and have been found pure and entirely free from tetanus germs; hence, tetanus could not have been caused by the virus employed. (See report of Dr. Mitchell, Secretary of New Jersey State Board of Health.)

2. The history of each case of tetanus has been carefully collected from the attending physician, and in every instance vaccination was practiced in a correct and cleanly manner; the infection of tetanus resulting from neglect on the part of the patients to present themselves to the attending physicians, so that their vaccination could receive proper attention.

3. One case of tetanus has occurred from gunshot wound, during the same period, in a boy who had not been vaccinated, proving that the tetanus germs were in the atmosphere.

4. Indisputable evidence of the fact that the tetanus germs were not introduced at the time of vaccination is that acute tetanus occurs in from 5 to 9 days after the introduction of the germs, whereas in every case acute tetanus occurred in from three to four weeks after the vaccination. If the virus had been contaminated, tetanus would have ensued within 9 days after vaccination. Tetanus developed in every make of vaccine used.

5. Further proof of the purity of the virus exists in the reports of the physicians in Cooper Hospital, who tested on animals samples of all makes of vaccine employed in Camden. If the virus had been contaminated, the animals would have developed tetanus because of their extreme susceptibility to this disease. (See animal experiments.)

6. During the past five weeks there have been vaccinated in Philadelphia a very large number of people with the same virus as employed in Camden. In not one of these cases did tetanus occur.

7. The tetanus cases in Camden are to be explained upon atmospheric and telluric conditions which have prevailed in Camden during the past six weeks. There has been a long period of dry weather with high winds, so that tetanus germs, which have their normal habitat in the earth dust, dirt of stables, etc., have been constantly distributed in the atmosphere. It is noticeable in all the cases, after careful examination as to the cause, that the wound had been exposed by the scab being knocked off or removed, or else the arm had been injured and infection resulted; frequently children scratched the vaccinated area with their dirty fingers and nails and infected the wound.

8. That vaccination should be regarded as a surgical operation and should be performed in an aseptic or clean manner, and in every instance the physician should be consulted for advice if any unusual inflammation should develop.

9. It is the unanimous opinion of the Board of Health, as well as of their committee of experts, that, inasmuch as vaccination is harmless, it should be insisted upon by physicians as an absolutely necessary procedure for the prevention of smallpox. Tetanus, or any other infection, can never occur if the vaccination is properly protected from contact with the atmosphere or with soiled clothing, bandages, etc.

HENRY H. DAVIS, M.D., President.
JOEL W. FITHIAN, M.D.
S. G. BUSHEY, M. D.
Committee Board of Health.

STATE HOUSE, Trenton, N. J., Nov. 26, 1901.

Dr. H. H. DAVIS, President Camden Board of Health:

Laboratory examinations of vaccine forwarded by your Board of Health show that no tetanus bacteria were present.

HENRY MITCHELL, M.D.,
Secretary New Jersey State Board of Health.

THE COOPER HOSPITAL, Camden, N. J., Nov. 26, 1901.

We report herewith the results of our experiments with the vaccine virus employed in Camden:

The virus was purchased from fifteen different pharmacies in Camden, and represented those brands of vaccine with which the patients who died of tetanus were vaccinated. All of these samples of vaccine were purchased in the open market without any person's knowledge that they were to be tested for the presence of tetanus germs.

These experiments were conducted in the Cooper Hospital, so that constant and careful observations could be made. White rats were selected because they are extremely susceptible to tetanus and because in these animals tetanus develops within twenty-four hours after infection. A large number of white rats were inoculated with all the samples of vaccine and kept under observation for five days. Not a single one of the animals has, at any time since their inoculation, manifested the slightest symptoms of tetanus.

The results of our experiments enable us to state positively that the vaccine virus was pure and free from tetanus germs, thus proving that the cases of tetanus which occurred in Camden were not caused by the vaccine employed.

This investigation should remove all fear from the public mind and should encourage people toward vaccination as a preventive to a disease which is imminent as an epidemic.

ALEXANDER SCANLIN ROSS, M.D.
S. EDWARD FRETZ, M.D.

PHILADELPHIA, PA., Nov. 27, 1901.

HENRY H. DAVIS, M.D., President Board of Health,
City Hall, Camden, N. J.:

DEAR DOCTOR:—In answer to your inquiry of even date, I desire to state that our vaccine physicians have vaccinated nearly one hundred thousand persons in the past three months, and during the same period it is safe to state that at least 700,000 persons in Philadelphia have been vaccinated, without a single case of tetanus having been reported to this office. Yours truly,

J. LEWIS GOOD,
President Philadelphia Board of Health.

VACCINATION IN PORTO RICO.

WAR DEPARTMENT,
SURGEON GENERAL'S OFFICE,
WASHINGTON, D. C., Nov. 23, 1901.

HENRY H. DAVIS, M. D., President Board of Health,
Camden, N. J.:

SIR:—Replying to yours of November 20, 1901, relative to statistics concerning tetanus after vaccination, and the efficiency of vaccination in preventing smallpox, I am directed by the Surgeon General to refer you to the report of the Superior Board of Health of Porto Rico, Major J. Van R. Hoff, Surgeon, United States Army, chairman, period '98-'00, page 117, in which the following

statement is made: "The average annual number of deaths from smallpox for the past ten years was 621; the greatest number, 2,362, occurring in 1890, and the least, 11, in 1893. In 1899 there were about 50 per cent. less deaths than in any of the three years preceding. This decrease was due to the general vaccination of the island, which was concluded June 30 of that year; 860,000 vaccinations were performed under the direction of the chief surgeon of the department during the four months preceding this date. All the deaths reported in 1899 from smallpox, except one, occurred prior to the day on which the work was concluded. At the rate of 242 for the first six months the annual deaths would have been practically the same as in the preceding three years. During the seven months covered by these statistics but one death has occurred from this cause."

It is stated by Major Hoff that subsequent to the completion of the general vaccination of the Porto Rican population on June 30, 1899, there have occurred, down to the present time, but three deaths from smallpox in Porto Rico—the average annual death rate from this disease being reduced from 621 to less than 1.5, with an apparent saving of 1,239 lives since the date mentioned. No epidemics of variola have occurred since that time in Porto Rico. A slight outbreak of varioloid occurred in the city of Ponce, but it was attended with no deaths and quickly subsided.

Although there were over 860,000 vaccinations performed on a susceptible and generally unvaccinated Porto Rican population, only one death occurred which could be attributed to vaccination. This was due to tetanus, and occurred in a child. Tetanus is, however, an extremely common and fatal disease in Porto Rico, causing no less than 818 deaths on the island during the seven months, October 1st to May 1st, 1899-1900, or 3.41 per cent. of the mortality. The occurrence of the case of tetanus following vaccination was undoubtedly due to a secondary infection from an outside source with the widely distributed tetanus germ.

A second instance illustrating the efficiency of vaccination is given in the report of the Surgeon General of the Army for 1899, page 245, where a brief description is given of the stamping out of an epidemic of smallpox in the district of Holguin, Cuba. In this epidemic, 1,185 cases of smallpox were collected into isolation hospitals by the army surgeons in charge. General vaccination of the Cuban population was practiced and the epidemic was promptly brought under control. It is of interest to note that not a single case of smallpox occurred in the carefully vaccinated regiment of

United States troops which furnished the guards for the lazarettos, performed the work of disinfection of infected buildings and in other ways were constantly exposed to the danger of contracting smallpox.

Respectfully,

EDWARD L. MUNSON,
Captain, Assistant Surgeon, U. S. A.

THE DIPHTHERIA ANTITOXIN AND TETANUS OUTBREAK IN ST. LOUIS.

DRS. B. MEADE BOLTON, C. FISCH and E. C. WALDEN, the commission appointed to investigate the cases of tetanus following the administration of diphtheria antitoxin in St. Louis, have reported (*St. Louis Medical Review of November* 23, 1901) as follows:

"As a result of our investigations we draw the following conclusions: "The diphtheria antitoxin prepared by the Health Department of the City of St. Louis, and dated September 30, and some of the serum dated August 24, was the cause of the recent deaths from tetanus in the cases where this antitoxin was used. This antitoxin was sterile, but contained the toxin of the tetanus bacillus in considerable amount.

"There were two different sera issued under the date of August 24; one portion not containing the tetanus toxin and characterized by other properties, while the other contained the tetanus and was identified with the serum bearing the date of September 30.

"The most important result we have arrived at is the positive demonstration that the toxic serum dated August 24 and that dated September 30 are identical. From this we conclude that the serum of September 30 was issued without having been tested by the proper methods, and that a part of it was filled into bottles bearing the date of August 24, and furnished with labels having previously been stamped with this date. We are justified in drawing this conclusion from two observations. First, that the serum of September 30 was issued before there was time to have performed the simple tests necessary to determine the antitoxic potency of the serum. Second, in the same way, serum dated October 23 came into our possession on November 1. This serum had been issued to physicians by the Health Department, and by them returned to the coroner. It is obvious from this that no animal experiments could have been made with this antitoxin. As this was the case with the serum of October 23, it is the natural inference that the serum of September 30 was issued in the same way.

"We must deny any possibility of latent tetanus having existed in the horse 'Jim' from August 24 to September 30, as no well-authenticated cases have been reported in which the incubation

period extended over seven days, in experiments directed to test this point. The period of incubation cannot be determined from clinical observation, from the nature of the case. It therefore follows from this that the serum drawn on August 24 was free from tetanus, but that the serum of September 30 was drawn during the period of incubation, and had it been tested upon animals it must necessarily have revealed its toxic properties.

"From the foregoing facts we are forced to conclude that the diphtheria antitoxin prepared by the City Health Department has been issued before it was possible to have obtained results from the absolutely necessary tests. Had these tests been performed, the results upon animals would have been such that the serum would not have been dispensed, and the cases of tetanus forming the basis of this report could not have resulted."

THE EFFICACY OF VACCINATION.

Dr. William M. Welch, Physician in Charge of the Municipal Hospital, Philadelphia, read a paper at a recent meeting of the County Medical Society, on the "Efficacy of Vaccination," in which he said, in part:

"Not one thus far who has been vaccinated previous to exposure has contracted smallpox. About fifty individuals, including physicians, nurses and attendants, have been continuously and freely exposed to the disease.

"In addition to the individuals referred to as being exposed, there were some sixty or more workmen, engaged in the construction of a new pavilion, who were in close proximity to the smallpox patients. These were vaccinated with glycerinated lymph, some for the first time, and none up to the present date has contracted the disease. One workman, who, by the way, was the only one to refuse vaccination, has within the past week been brought into the hospital with smallpox. He bears upon his arm a good scar from infancy. An unvaccinated garbage wagon driver and several other unprotected individuals, who were merely exposed upon the grounds, contracted the disease.

"We have, from time to time, received in the hospital persons with well-marked and even fatal smallpox in whom vaccination performed some weeks before had failed.

"Many physicians hesitate about vaccinating individuals who are suffering from some other disease. At the Municipal Hospital recently scores of patients suffering from diphtheria and scarlet fever were vaccinated as a precautionary measure. The vaccina-

tion did not unfavorably influence the original disease, and, on the other hand, the course of the vaccinia was in no case unusual.

Only One in Three Hundred.

"Since the beginning of the present year about 300 cases of smallpox have been treated at the hospital. Of this number not a single patient had been recently successfully vaccinated. The shortest period elapsing between a successful vaccination and the contraction of the disease was five years. In this case, which occurred in a boy 11 years old, the eruption consisted of only a score or so of papules, which scarcely developed into vesicles, but dried up in a few days. It was not found necessary to confine the lad to bed. While the majority of the patients admitted they were unvaccinated, a very large number had been vaccinated in infancy. To our knowledge, none, save the boy mentioned, had been successfully vaccinated within the past ten years.

"The writer believes that it may be laid down as a rule that if a child is successfully vaccinated in infancy, and again at the age of puberty, the protection will be permanent. The exceptions to this rule, however, may be sufficiently frequent to warrant repetition of the vaccination whenever there is exposure to smallpox."

VIRCHOW AS A POLITICIAN.—The London "Spectator" says: "Berlin has been honoring itself by celebrating the eightieth birthday of Professor Virchow, the great pathologist, whose demonstration that the human anatomy was based on cells laid the foundation of modern medicine. He is the son of a little farmer in Pomerania, and his rise from that position to the headship of science in Germany has been marked by a singular peculiarity. Professor Virchow, though devoted to scientific research, has been a weighty politician. He was practically for twenty-five years the leader of the Liberal party, had once the honor of a challenge from Bismarck, and incurred the fiercest anger of the Court, which secured his expulsion from his scientific appointments. He was also a hard worker in the field of local government, having been for forty years a member of the Municipal Council of Berlin, which he induced to undertake and carry through great sanitary reforms. He is now honored by Court and people alike, the Emperor forwarding to him the Grand Gold Medal for Science in a letter which, though without warmth, acknowledges to the full his scientific rank, and the people complaining that the decoration is insufficient. Here rarely or never do our scientific men or even physicians enter politics."

KINGS COUNTY MEDICAL SOCIETY MEMORIAL MEETING.

According to its wont, the Medical Society of the County of Kings held its annual memorial meeting at the Society's building, in Brooklyn, December 1, 1901. Dr. Browning, the president, opened the meeting with brief explanatory remarks and introduced Dr. H. N. Hoople, chairman of the historical committee, who gave a brief biography and eulogy of the following members who had died during the year:

GUTHRIE RIDER WARNER, M.D.; JAMES BYERS WARDEN, M.D.; JOHN BARNARD BUSTEED, M.D.; JOHN HENRY HOBART BURGE, M.D., an ex-president; JAMES WILLIAM EDWARD ROBY, M.D.; AUDLEY HASLETT, A.M., M.D.; ADOLPHUS WILLIAM DUNBAR, M.D.; THOMAS ENNIS MCCARTY, M.D.; CHARLES EDWARD DORITY, M.D.; JARVIS SHERMAN WHITE, A.M., M.D., LL.D.; FREDERICK CORNELL DEMUND, A.B., M.D., and STEPHEN CHANDLER GRIGGS, M.D., together with Drs. JOHN CHARLES HARTT, RICHARD CARSON BAKER, GEORGE WILLIAM WELLS, EDWARD F. MORGAN and ORSON HOPKINS SMITH.

Dr. Browning then introduced the Rev. E. W. McCarty, rector of St. Augustine's Roman Catholic Church, as the brother of one physician and the uncle of another, both deceased.

Father McCarty delivered an address which was listened to with close attention and earnestly applauded at its close. He spoke in part as follows:

"Members of the Kings County Medical Society—You have gathered here to-night to recall and to honor the memories of your associates who during the last year have passed away. This annual custom dignifies your large and venerable organization. It reveals your fealty to friendship, your fine sense of justice and your loyalty to your profession. Usually physicians are not credited with a surplus of sentiment; but when you busy men leave your duties that are pressing and important to listen to the roll-call of your recent dead, to write in your records an outline of their lives, and to eulogize their achievements in medical science, you not only give evidence of the sincerity and manliness of your sorrow for the dead, but you hold out to the living a splendid incentive for noble effort in their difficult work. If the lips now turned to clay could give voice to the hearts that beat no longer, I am sure they would tell you that, after the tears of those who are nearest and dearest, they prize most of all on earth your commendation

and the writing of their names in honor here in this temple of medical fame.

"Twelve of your men have fallen since your last memorial meeting. Twelve doctors' signs have come down, and on twelve silver plates their names have been graven and then fastened to coffin lids. On their new signs no office hours are stated. Their office chairs are empty. They have made their last call. Here, in imagination, to-night, we have twelve full-sized caskets, ranged becomingly side by side. From one to the other we reverently go and unscrew the tops and uncover the faces. As we look from one white face to another we find that some of them were old, some were in middle life, and some were young. On every face is stamped the evidence of intellectuality and thought—faces that brought hope to many a sick room and health to many a home. There they lie, fine types of noble manhood. Shower upon them generously your fragrant flowers of remembrance, and join in a fervent song of earnest praise because of the efforts they made and the work they did on behalf of suffering humanity.

* * * * * * * * *

"The world does not discriminate well in crowning its heroes. Read the story of the human race and it will tell you that here and there, in every age and in every land, geniuses shed their light on their time and on their country. Some led victorious armies whose iron tread shook the earth; some with master hand guided the destinies of nations to magnificent success; some revolutionized geography by their discoveries; some rose on the wings of literature until they seemed almost inspired; some scanned the heavens with the eagle eye of science, and told the astonished nations the secrets of the stars. These names were forged in iron, cast in bronze, carved in stone, and written in ink that seemed indelible on the glorious pages of history. This is as it should be. Raise them on their pedestals of polished granite and let them, placed in graceful posture, receive the homage of their fellow-men. But why not give equal reward to greater merit? Why has not your great profession been fittingly recognized? Is it not strange that the heroism of an hour is often recorded and rewarded, while the heroism of a life is passed by unnoticed? You do not sweep the heavens with the telescope and speak to the listening thousands of the music of the spheres, but you search the earth with the microscope and warn mankind of its discords and dangers. You do not soar into eagle flights of literature that fascinate the imagination, but you tell with pen that is learned and graphic the mysteries of the

human frame, the intricacies of the organs of life, the marvels that the Creator has crowded into the body and brain of man, and how to develop and protect them. Your profession does not cross unknown seas, nor penetrate into primeval regions, in search of new countries, but it works with sleepless energy and splendid science to make the old countries more healthful and happy. It searches the vegetable, mineral and animal kingdoms, and discovers new facts and new agencies that relieve pain and prolong life.

* * * * * * * * *

"You are not leaders of great armies that march in serried ranks to the field of glory, with martial music and colors flying, to fling themselves upon their country's foes, and to wrest from them in carnage its rights and liberty. But your profession is waging a more difficult warfare against enemies harder to conquer. Your foes are microscopic, elusive and deadly; they are in the water, in the earth and in the air, and they threaten all the people. Armies are organized and drilled to wound and to kill; you are organized and drilled to heal and to save. Their battlefields become blood-stained cemeteries, and the graves they dig are filled with the youth and chivalry of the land. Your battles are against disease and death, and the grave never claims either young or old, except against your protest. Their warfare is as a passing thunderstorm, with flashes of lightning that strike and destroy. Your warfare goes on forever, with frequent flashes of brilliant genius that illumine and preserve. Their shouts of victory are mingled with the wail of the widow and the cry of the orphan; your victories are hailed by tears of joy and the benedictions of the people. God forbid that I should steal one leaf from the laurel that crowns our brave men of arms. I am only pleading for other laurels just as fresh and green for other brave men. We applaud the heroes of war—why not hail the heroes of peace? And since they crape the flag and muffle the drum and march to music that is solemn and slow when a military commander dies, should we not uncover here and walk with silent step, and reverently, in the presence of these leaders who have fallen in their great struggle for the people?

"The world should write its gratitude for your services in letters that will not rust as does the iron, nor crumble as does the stone.

* * * * * * * * *

"Plato defined wisdom to be a meditation on death. How it changes values, honors, pleasures, titles, everything that the world can give! How it shrivels them and shows their emptiness!

Members of the Medical Society, we have to thank you for this lesson. You have added one more to your many benefactions. May your numbers increase; may the field of your influence widen; may your benefits multiply; may your success be even more brilliant; may your rewards be priceless. May your society continue to be what it has been and is, the pride of Kings County—standing here, a majestic figure, robed richly and gracefully, with the royalty of knowledge; shod with the golden sandals of progress; belted with the brilliant girdle of charity; her mantle of public spirit held by the jeweled clasp of unselfishness; holding in her skilled right hand the Damascus blade of surgery; on her strong left arm the enameled shield of medicine; on her brow the large, clear, brilliant diamond of science; her eye keen and watchful; her handsome face benevolence itself; her large heart throbbing strongly with sympathy for the afflicted—wishing for and striving for the betterment of mankind."

The meeting, which had been arranged under the direction of President Dr. William Browning and the historical committee, of which Dr. H. N. Hoople is chairman, Dr. William Schroeder is secretary, and Dr. E. E. Cornwall is member, was then closed without further ceremony. It was well attended.

NOBEL PRIZE FOR THE FOUNDER OF THE RED CROSS.

The committee appointed by the Legislature of Sweden and Norway to confer the Nobel prize of $50,000 to be awarded to the person who has done the most to promote peace, passed over the apostles of arbitration and the writers and artists who have portrayed the horrors of war. The choice, we are told, wavered between Frederick Passu, the aged pioneer of the idea of universal peace, and Henri Dunant, the founder of the Red Cross, finally deciding upon the latter. Dunant was born at Geneva, Switzerland. He served as a volunteer assistant in the field hospitals during Napoleon's campaign in Italy, in 1859. Amid the desolate scenes of the battle of Solferino he conceived the idea of an international organization to relieve the sufferings on the battlefield. He published a book, "Memories of Solferino," which was translated into many languages and prepared the soil for the germination of the idea of the Red Cross Society. He devoted all his energies and means to the realization of this ideal, and is now living in poverty in his old age. The prize endowed by the City of Moscow, to be awarded at the international medical congresses, was also bestowed on Dunant.

MEDICAL EXCERPT.

By T. P. Corbally, A. M., M. D.

Utilizing Radiography.—At a session of the Congrès de l'Association Française pour l'Avancement des Sciences, M. Bilhaut, of Paris, presented a communication ("Le Progrès médical") on the utilization of "radiographie comme contrôle à la suite des accidents du travail." He said:

The physician or the surgeon, when consulted as an expert, to determine the extent and the condition of an accident received by a person during his work or otherwise, should not limit himself to making a clinical and formal examination of the case, as has been the custom heretofore. He must not strive to establish the applicability of theories that may have been advanced regarding the nature and condition of the injury: he should have recourse to the positive information that may be afforded by the accessory sciences, especially the physical and chemical. There are cases in which he should never omit to consult the X-rays as a means of clearing doubt and of furnishing positive evidence. In those doubtful cases in which the clinical signs resulting from a careful examination by such means as palpation, auscultation and percussion are wanting or uncertain, he will find in the judicious use of the X-rays evidence that leaves no doubt. The doctor consulted should, in the interest of his client, be careful to examine the obscure, the real, conditions of the case submitted for his examination. By a careful and continued study he will educate the eye, which is absolutely indispensable, to enable him to understand what is shown on the screen during the active or passive movements of the patient.

Thus fortified he will avoid formal statements that are often vague or indefinite, and will be able to form accurate conclusions regarding the nature of the injury.

Luxation of the Astragalus.—M. Walther presented to the Société de Chirurgie the report of a case in the practice of M. Brossard, of Cairo, describing a traumatic luxation of the astragalus which that surgeon treated by the removal of the bone ("Progrès médical," November 16). The result was very satisfactory; four months after the operation the patient was able to walk

with the help of a cane, and a little later without any help. M. Brossard left closely adhering to the internal lateral ligament a fragment of the astragalus which he was unable to remove, the existence of which was confirmed by radiography, and it is to the existence of this fragment that he attributes the excellence of the result.

M. Walther did not place any confidence in this opinion.

M. Quenu was certain that the result was as described by M. Brossard, and that there is nothing in the beautiful result that should cause astonishment; that is the rule, so to say, when the operation is well performed.

M. Berger remarked that leaving a fragment of bone could not fail to cause much inconvenience: he has operated on many cases of luxation of the astragalus with uniform success; but he has been able to reduce all sub-astragalian luxations.

M. Kirmisson showed that with the help of radiography the presence of bone can be determined with certainty; it is also shown that the bone was a fragment left by the surgeon and not the result of a new formation, the age of the patient being over forty years.

ARTIFICIAL LARYNX.—M. le Dentu presented a patient who had the larynx entirely removed for cancer. The application of an artificial larynx made by M. Martin, of Lyons, has given very satisfactory results in reproducing the use of the voice. In an operation of the same kind for epithelioma, M. Perier had obtained, by means of an apparatus, a use of the voice almost perfect.

INFLUENCE OF NUTRITION ON THE HEART.—MM. Prevost and Batelli, of Geneva, presented to the Cinquième Congrès International de Physiologie, at Turin, a memoir on the Influence de l'alimentation sur le rétablissement des fonctions du cœur ("Progrès médical," October 19, 1901).

They say that Ch. Prus has recently published a memoir in which he has shown that in dogs that have been asphyxiated, the massage of the heart, accompanied with artificial respiration, generally succeeds in restoring the rhythmical contractions; the heart does not, save in some exceptional cases, degenerate into fibrillous trembling. In previous experiments M. Batelli had, however, observed that in dogs asphyxiated with a ligature around the trachea, the heart was affected at the moment the restorative massage was applied with persistent fibrillous trembling, unless a suit-

able electric shock or an alternating current of 240 volts was applied to relieve the fibrillous tremblings.

The results of a new series of experiments which really form the subject of this communication, show that in dogs that were performing the act of digestion the heart was restored very frequently by the simple act of massage, a condition that never happened in the animals on which M. Batelli operated when they were fasting. It is possible that the experiments of M. Prus were made under conditions different from those of M. Batelli, on dogs when they were in the act of digesting, and that this circumstance may have been the cause of the different results. It is a mixed meal that has results the most uniformly favorable on the restoration of the action of the heart after it has been arrested by asphyxiation. The hydrates of carbon seem to be among the most active in this respect. The albuminoids are next in influence. Fats are, of all others, the least influential.

These facts have enabled us to determine other facts that favor the theory of the automatism of the respiratory centres. When, in consequence of massage of the heart, accompanied with artificial respiration, we see all the cerebro-spinal functions gradually and progressively reappear, it is always the respiratory movements that return first, weak at their first appearance, then more and more marked up to the time when the reflex movement has entirely ceased. Later the pupil, which was much dilated, becomes contracted, and the reflex action in the joints, the reflex of the cornea, then the nasal reflex, and finally comes the inhibitory reflex of the superior laryngeal organs. We may designate also an unilateral spasmodic contraction of the orbicularis of the eyelids, caused by the excitation of the nasal fossa of the same side, by means of a sound introduced within the nasal cavity.

POTATO DISEASE IN FRANCE.—Consul Covert reports from Lyons, August 30, 1901, that the potatoes in certain departments have been attacked by a disease that is causing alarm, and appropriations have been voted to study it. The leaves of the potato plant dry up, the stem becomes thin and covered with yellowish spots, and dies. The veins fill with a gummy substance and are infected by bacteria. The disease first attacks the roots and then invades all parts of the plant. The bacteria is said to be identical with that which once attacked tomatoes and egg plants in the United States and was denominated *Bacillus solanearum*. The only advice given to farmers on this subject, which comes rather late, is not to plant potatoes.

EDITOR'S TABLE.

SANITARIAN, JANUARY, 1902.

☞All correspondence and exchanges, and all publications for review, should be addressed to the editor, Dr. A. N. Bell, 337 Clinton St., Brooklyn, N. Y.

THE NEW BOARD OF HEALTH.

The most important local event with reference to the public health at the beginning of the year is the reorganization of the Department of Health. Mayor Low has signalized his administration at the outset by the excellence of his appointments to the chief offices of the City Government generally, but in none more than to the Department of Health and other departments in relation with it.

In announcing these appointments, Mayor Low called attention to the important changes made in the organization of the Health Department by the new charter. Hitherto it has consisted of the president and two medical commissioners and Police Commissioner. The new charter reduces this board of three members to a single Commissioner, and makes the Board of Health to consist of this Commissioner, as president, of the Health Officer of the Port, and of the Police Commissioner. The Health Commissioner is ERNST J. LEDERLE, Ph.D., who has been chief chemist to the department for several years. He was educated at the New York University and at Columbia University, graduating from the School of Mines in the course of chemistry in 1886.

In announcing this appointment, the Mayor added that it had been to him "a matter of no little study to decide whether, under the circumstances, the Health Commissioner had better be a layman or a physician. After careful reflection I determined that even under these conditions it is best that the Health Commissioner should be a layman. On the other hand, the disappearance of the medical members from the board as before constituted makes it highly important, as I conceive, that there shall be a certain reorganization of the department on its medical side.

"I have therefore arranged with Mr. Lederle that Dr. HERMAN M. BIGGS, now at the head of the bacteriological laboratories of the Health Department, shall be placed in practical charge of all the medical side of the department, with the title of Medical Officer.

The exact duties of Dr. Biggs as Medical Officer of the Department remain, of course, to be determined in the light of the law and of the judgment of the Board of Health as it will be constituted after January 1. In the meanwhile it is sufficient to point out that in the presence of a very radical change in the organization of the Health Department I have endeavored to secure the advantages of the new system without losing the benefits of the old."

JOHN N. PARTRIDGE, Police Commissioner, is favorably known for his service in the same capacity under Mr. Low, nearly twenty years ago, when he was Mayor of Brooklyn. Of the other ex-officio member, Dr. ALVAH H. DOTY, the efficient Health Officer of the Port, there is no room for remark—his thorough competency and acceptability admit of no question.

Closely allied to the Health Department is the Street Cleaning Department. To the head of this the appointee is Dr. JOHN McGAW WOODBURY. In making this selection, Mr. Low says: "I have borne in mind the fact that the work of the Street Cleaning Department consists of two very distinct parts. First of all, it is necessary that the streets should be kept clean, and that the garbage and refuse should be promptly and efficiently removed. For this part of the work executive ability of a high order is essential.

"But, in addition to all this, as to the success or failure of which the public can readily form its own judgment, there are important scientific questions to be dealt with, relating to the best disposition of the city's refuse. These matters lie outside of the public sight, and I do not know to what extent the immediate future may be embarrassed by existing contracts. I believe, however, that a great service can be rendered to the city along these lines, and that, ultimately, an income ought to be received from much of this work which is now a subject of expense.

"Dr. Woodbury's equipment for dealing with both sides of this problem may be briefly stated. During the war with Spain he was assigned as Division Surgeon, with the rank of major, to the staff of Major-General James H. Wilson, who speaks of his capacity and efficiency in the highest terms. At Ponce, Dr. Woodbury was placed in charge of the unloading of the transport of his division at 6 A. M., and completed the same by 2 A. M. of the following day. In no other case was the work performed in less than three days. Later, when wagon trains were to be pushed to the front, the train in Dr. Woodbury's charge got through on the same day, while of the other trains which started on the same afternoon, the next arrived two days later.

"Dr. Woodbury served for a time as Sanitary Inspector of the Island of Porto Rico, and during this period organized the first Board of Health of Ponce, superintending the cleansing of that town.

"After the war he was sent abroad by the United States Government to inspect, study and report upon the sanitary conditions of the German Army in active field operations. During this visit he inspected and studied the system of drainage, disposition of sewage, garbage, and general refuse, in Berlin, Frankfort, and Breslau, and also of the city of Paris. Dr. Woodbury is, therefore, singularly well informed as to the side of the problem which demands scientific knowledge."

Dr. Woodbury is a graduate of Princeton University and of the Bellevue Medical School. At the time of his appointment he was an instructor in the Cornell University Medical School. He has given up his practice and proposes to give his entire attention to the work of the department.

J. HAMPTON DOUGHERTY, Water Commissioner, is a lawyer of distinction in this city. As president of the Brooklyn League, Mr. Dougherty interested himself in the Long Island Water Supply scandal, and later in the Milburn Conduit, Milburn Reservoir, and Forest Park Reservoir matters. Last Winter Mr. Dougherty headed a delegation which urged at Albany the passage of a bill providing for a large storage reservoir at Forest Park. He has made a study of the problem of securing an adequate water supply for the greater city. At the time of the Ramapo agitation he was made the head of a joint committee of the Brooklyn League and the Manufacturers' Association of Brooklyn, named to investigate the subject.

Altogether the Department of Health and its congeners are better equipped with executive competency than they have ever been heretofore. It is quite safe to say of them they have the unqualified confidence of the public, insomuch that there need be no fear of stint in the exercise of their functions.

VACCINATION, ANTITOXIN AND TETANUS

continue to excite lively discussion in the newspapers and in some of our medical contemporaries. Official reports on the St. Louis and Camden misadventures are summed up on other pages. It is to be hoped at least that the well-ascertained results of carelessness of one kind or another, as reported, will lead to closer obser-

vation and care in the future, alike with reference to the collection of vaccine lymph, the preparation of antitoxin, the practice of vaccination and its benefits, even beyond its protective power against small-pox. Almost forty years ago, in an essay on vaccination (Medical Society of the State of New York, 1864) we had occasion to refer to statistics gathered by Drs. Farr and Greenhow, and McCulloch's statistical account of the British Empire, showing that the death rate from scrofulous diseases was five times greater before the introduction of vaccination than subsequently; and that measles and scarlatina progressively had subsided since 1771 (at first under the influence of inoculation) and subsequently of vaccination. Yet the subject is now brought up by one of our medical contemporaries as one of recent observation. Moreover, it is worthy of remark in this connection that, according to recent records, the danger of communicating other diseases with vaccinia is evidently greater with the use of bovine vaccinia than it is with humanized lymph. But as to its danger in either case, compared with the danger of small-pox where vaccination is neglected, it is *nil.*

COSMOPOLITAN HEALTH STUDIES, by Dr. F. J. Oswald, will be resumed in our February number. They are of wide scope; will comprehend the conditions of health in relation to natural conditions, civic administration, government, municipal and rural, habit, food, etc., of different nations and communities.

CONSUMPTIVES BARRED.

The Board of Health of Liberty, Sullivan County, have enacted an ordinance providing that no building situate within the limits of the village shall be used, occupied, or maintained as a hospital, pest house, or sanitarium for the reception of public or private patients afflicted with consumption. A first violation of the offense is punishable by a fine of $50, and for a subsequent violation there is to be a penalty in the discretion of the board, not to exceed $100.

This means that Liberty, which was rapidly becoming famous as a Mecca for consumptives from New York, Brooklyn and Newark, will not be allowed to receive them any more. Hotels for their reception, costing thousands of dollars, have been built, and in Winter they used to flock there in great numbers to take the "open air sunbath treatment." Every hotel in Liberty, except one,

catered to their patronage. Steve Brodie spent several months there before his trip West, where he died.

The Loomis Sanitarium, located beyond the village limits, will not be directly affected, except that, as the ordinance states that no patients, "public or private," will be entertained within the limits, the patients will not be allowed to stop at any of the hotels for temporary rest or refreshment.

In the summer Liberty does a big business in catering to boarders, and it is expected that this will increase when the consumptives are barred.

BOSTON MEDICAL
MAR 12 1903
LIBRARY

PTOMAINE IN CANNED OYSTERS.

Rochester, N. Y., Nov. 21.—Miss Clara Schmat, daughter of Fred Schmat, merchant in Attica, gave an informal party last night. About thirty of her friends were invited. Among the refreshments served were tin cans of oysters, which had been opened and allowed to stand for two days. Before midnight all of the guests were taken violently ill with ptomaine poisoning. Physicians worked all night, trying every effort known to counteract the poison, but Miss Schmat died early this morning, and Frank Harrison died two hours later.

CAR SANITATION.

At the annual meeting of the New York State Association of Railway Surgeons, held at the New York Academy of Medicine, November 14, papers were read by Dr. G. P. Conn, of Concord, New Hampshire division surgeon of the Boston & Maine Railroad, on car sanitation; by Dr. J. N. Hurty, secretary of the State Board of Health of Indiana, on the transportation of passengers ill with contagious diseases; by Dr. W. J. Rosenau, of Washington, D. C., on the need of disinfection; by Dr. William H. Park, of the Board of Health of this city, on methods of disinfecting cars, and by L. L. Gilbert, assistant counsel for the Pennsylvania Railroad at Pittsburg, on medico-legal features of railroad sanitation.

"I believe that consumptives should be prohibited from traveling in railroad cars," said Dr. Hurty. "When they travel in railroad cars they spread contagion everywhere. I have learned through my career that when consumptives travel for a change of climate they invariably return home in the baggage car. If they are allowed to travel they should have separate compartments. Typhoid fever convalescents and all other persons suffering from

infectious diseases should be prohibited from traveling in public conveyances.

"One of the greatest strongholds of disease germs on railroad cars is the excessive ornamentation," says Dr. Rosenau. "There should be less of this, and the interior of the cars should be arranged so that it presents a smooth, hard surface, which would greatly facilitate disinfection."

"The primitive method of using sulphur as a disinfectant in places where there have been infectious diseases," said Dr. Park, "is still in use in New York City. The Health Board finds it efficacious. We cannot rid ourselves of all danger of the spread of disease in railroad and street cars under present methods of fumigation. A thorough cleaning of such vehicles every day and a blowing out of the dust with compressed air, and the use of some disinfectant, would make cars reasonably safe. The linen and blankets of sleeping cars should be steamed every day, however."

A HYGIENIC LABORATORY FOR THE MARINE HOSPITAL SERVICE.

The appropriation of $30,000, made at the last session of Congress for the erection of a building for the laboratory for the study of hygiene by the Marine Hospital Service, is now available, and a site for the laboratory has been selected on the Potomac flats near the terminus of the proposed memorial bridge across the river.

STUDY OF HYGIENE RECOMMENDED FOR WEST POINT CADETS.

The Board of Visitors at the United States Military Academy, West Point, has recently expressed itself in its official report to the Secretary of War, with respect to the addition of the subject of military hygiene to the prescribed course of study, in the following language:

"The Board feels that the time has come when those in charge of the academy should realize that there are other requisites to a well-rounded education, as applied to the soldier, than those that relate to mathematics and their application. There has been too great a tendency to cling to old educational traditions that have influenced, if not entirely shaped, the curriculum from the foundation of the academy, . . . while in the academy he should have time and opportunity for the study of . . . military hygiene."

THE SALE OF HORSE MEAT.

Nearly half a century ago the experiment of putting horse meat on the market was made for the first time in Austria. A Government decree of April 20, 1854, gave legal permission to cut up and sell horse meat as an article of food. During the rest of that year and in 1855, 943 horses were slaughtered for food in Vienna. The number rose in 1899—the last year for which statistics are obtainable—to 25,640 head.

SUNFLOWER-SEED OIL.—Consul Ravndal reports from Beirut, September 13, 1901: Olive oil has many uses, but more substitutes, and few salads are compounded without the aid of one of them. Cotton-seed oil is a favorite substitute, but, according to an Egyptian newspaper, this is soon to find a sturdy rival in the form of the seed of the sunflower. Experiments made by German chemists have convinced them, it seems, of the availability of this cheap raw material, and it may shortly become a valuable article of commerce. It is said to be convertible to many uses, and, besides having possibilities as a lamp oil, may be used for dyeing purposes, and will be of service in soap-making.

DR. WALTER D. GREEN, HEALTH COMMISSIONER OF BUFFALO.

At the time of this writing it has been announced that the newly elected Mayor has decided not to reappoint Dr. Ernest Wende Commissioner of Health, but to appoint Dr. Walter D. Green in stead. Dr. Green is not a new man in the health service of the city. He has been deputy commissioner under Dr. Wende. He was the head of the department from 1889 to 1891, when he was succeeded by Dr. Wende. He was graduated from the medical department of the University of Buffalo in 1876, was appointed district health physician in 1882, and has been connected with the department ever since. He is clinical professor of diseases of the kidney and bladder and attending surgeon at the Sisters of Charity Hospital and at the Erie County Hospital. An active canvass had been made to retain Dr. Wende at the head of the department by his friends, but it failed. In the appointment of Dr. Green, Dr. Wende has a worthy successor.

AN INTERNATIONAL SANITARY CONGRESS.

will be held in Paris during the week of February 15-21, 1902. Among the subjects to be discussed will be the rôle of mosquitos

in the spread of yellow fever, malaria, filarisis; quarantine and the value of municipal sanitation in the prevention of epidemics.

THE INTERNATIONAL SANITARY CONGRESS IN HAVANA.

At the recent Pan-American Medical Congress at Havana, the organization of an international sanitary congress was recognized as a necessity. It has now been completely organized and will meet at Havana, February 15, 1902. It is for the purpose of conferring on sanitary matters affecting the various Pan-American countries collectively and individually. Each country is entitled to three delegates, a physician, an engineer and a merchant. The duties, rights and penalties of each country in respect to sanitary matters will be discussed, and the means to aid those nations without resources for such measures for the public health. The Congress will also discuss prophylactic measures in general, and as applied to each particular port. The greatest publicity is desired and membership is open to all men of science, manufacturers and merchants who apply to the committee of organization. Dr. Thomas V. Coronado, of Havana, is secretary, and Dr. Juan Santos Fernandez is president. English, Spanish, Portuguese and French are to be the official languages of the Congress. Further particulars will be furnished on application to the secretary.

AMERICAN CONGRESS OF TUBERCULOSIS.

The Executive Committee of this Society has fixed upon the City of New York as the place, and the 14th, 15th and 16th of May, 1902, for the annual meeting of this Association, and extend an invitation to all interested in the prevention of tuberculosis to enroll and to contribute papers to be read. Every indication points to a still more successful meeting than that of last year, and all the Canadian Provinces and the Central South American States are expected to be represented.. Respectfully yours,

New York, Dec. 21, 1901. CLARK BELL, Sec'y.

CORRECTED.

Mr. Bloom—"I don't feel preddy well, Hans. I haf a horse in my throat."

Hans—"Dot 'horse' is nod right. You mean you have a 'colt in your hedt.' "—"Chicago News."

MORTALITY AND MORBIDITY REPORTS AND REVIEWS.

HEALTH OF THE ARMY.

Report of the Surgeon-General of the United States Army for the Fiscal Year Ending June 30, 1901.

The health of the Army appears to have been exceedingly good during the calendar year 1900. The admission rate for all causes in the Army, volunteers and regulars, with a mean strength of 100,389 in 1900, was 2311.81 per thousand of strength, as compared with 2178.06 in the previous year; but during the year 1899 only 39,280 men out of a total of 105,546 were serving in the Philippines, while during the past year 66,882 of a total of 100,389 were thus serving. This is an important point to remember in considering the sick rates of the two years.

The troops serving in the United States during the year 1900 (mean strength 20,690) had an admission rate of 1510.97 per thousand of strength, as compared with 1677.51 during the previous year—1242.87 from disease and 268.10 from injury, as compared with 1496.84 and 180.67, respectively, during 1899. The ratio for discharge was 39.29 per thousand of strength, as compared with 26.95 during the previous year; 32.52 of this rate was for disease and 6.77 for injury. The death rate did not differ much from that of the previous year. It was 7.78 from all causes per thousand of strength, as compared with 7.89 in the previous year; 4.83 from disease, as compared with 6.56 and 2.95 from injury, as compared with 1.33.

In the Philippine Islands, with a mean strength of 66,882, the admission rate was 2621.96, as compared with 2395.52 in the previous year, this increase being mainly due to disease among the volunteers, the ratio for which rose from 1859.21 to 2761.79. The regulars, on the other hand, showed a marked decrease in the ratio of admissions for disease, which fell from 2454.10 to 2197.73. Two-thirds of the admissions for disease were caused by malarial fevers and diarrhœal diseases. The discharge rate among the volunteers, 12.98 per thousand of strength, was smaller than that of the regulars—22.46—probably because the volunteers were in expectation of a return home for muster out at an early date. The deaths from all causes amounted to 28.75 per thousand of strength, as compared with 30.58 in the previous year. Disease occasioned 20.26 deaths, the principal cause of the fatalities being dysentery,

which, with other intestinal diseases, gave a rate of 9.08. The rate from injury amounted to 8.49.

The death rate in China was large, 47.76 per thousand of strength, 23.62 from disease, and 24.14 from injury, but fortunately the mean strength for the year was small, 1,947 men.

From the close of the calendar year 1900 to the latest reports, the health of the troops in the Philippines has been steadily improving. The chief surgeon has reported a progressive diminution in the non-efficiency of the command from disease and injury. In July and August, 1900, the non-efficiency constituted 9.47 and 9.58 per cent. of the strength. From January to June, 1901, the non-efficiency was less than 7 per cent., the lowest rate 6.12 per cent., having been recorded in March. Intestinal and gastric diseases, including dysentery and typhoid fever, gave 34.22 per cent. of the total sickness, malarial fevers 15.23 per cent., and venereal diseases 13.10 per cent. Typhoid fever, which scourged our camps in 1898, appeared only sporadically, constituting merely 1.78 of the total sickness. Most of the malarial cases were mild, and made little or no figure in the mortality returns. Smallpox, so prevalent and deadly in the early occupation of the islands, has almost entirely been suppressed. Dysentery, constituting 13.44 per cent. of all cases of sickness, is the dangerous disease. Bubonic plague, although a subject of importance to the medical officers, members of the Board of Health of Manila, and to those temporarily assigned for duty with the board as inspectors, on account of its prevalence among Chinese and Filipinos, appears to have given but little anxiety to medical officers serving with troops, as during the year only one case was reported as having occurred in the army, in the person of an enlisted Chinese cook of the Twenty-seventh Infantry at Camp Stotsenberg, near Manila, the infection having undoubtedly been contracted in the city. Quarantine and disinfection prevented any extension of the disease.

The health of the troops serving in Cuba was excellent during the year. With a mean strength of 8,690, the admission rate was 1873.07, as compared with 2749.74 in 1899, the rate for disease having been 1586.19, as compared with 2537.98. Discharges for disability amounted to 16.57 per thousand of strength, as against 20.25 during the previous year; and the death rate from all causes was 9.78, as against 18.30 in 1899. Malarial diseases contributed 581.35 to the admission rate, but the death rate from these cases was only 1.04 per thousand of strength. Dysentery and diarrhœal diseases constituted 166.75 of the admission rate, but only

0.58 of the death rate. But for the occurrence of yellow fever, the death rate in this command would have been only 4.72 per thousand of strength. One hundred and forty-four cases were reported, of which 32 were fatal, giving a death rate of 3.68 per thousand of strength, the rate for all diseases being 8.40 and for all diseases and injuries 9.78. Since the close of the calendar year the health of the troops has continued good. Under date of July 22, 1901, the chief surgeon reported that since November, 1900, the only cases of yellow fever that had occurred in our military garrisons were the nine cases in the persons of men who were experimentally inoculated by infected mosquitoes at Quemados.

Major V. Havard, surgeon, United States Army, chief surgeon, Department of Cuba, makes note of the fact that the admission rate for disease in the garrisons of the eastern half of the island of Cuba is nearly double that of the troops serving in the western half. This is due to the greater prevalence of malarial fevers and diarrhœal diseases in the eastern provinces.

Of the Prevalence of Special Diseases.—Cases of scarlet fever, diphtheria and cerebro-spinal fever were rare; measles and mumps, on the other hand, were of frequent occurrence. In the United States, measles had an admission rate of 11.36, the mean annual rate for the previous decade having been 8.46 per thousand of strength. It was imported into the Philippine Islands by almost every transport. The admission rate for volunteers in those islands was 8.18 per thousand of strength, and for the regulars, 1.61.

No epidemic of *typhoid fever* occurred during the year. In the Army as a whole, the admission rate was 9.74 per thousand of strength, and the death rate 1.63, as compared with the mean annual rates, 5.19 and 0.56 for the ten years preceding the outbreak of the Spanish-American War.

Of *yellow fever* there were 144 cases, with 32 deaths—an admission rate of 1.43 and a death rate of 0.32 per thousand of strength.

Malarial fevers were heavy, owing to their great prevalence in the Philippines and Cuba. The admission rate for the whole Army was 706.52, and the death rate 1.36, as compared with the mean annual rates of the decade, 1889-1899, 174.29 and 0.58. The rates for the volunteers in the Philippines were 1108.75 and 1.98: for the regulars, 742.82 and 1.64, respectively, per thousand of strength.—Reports follow on the progress made in efforts for the prevention of malarial fever.

Tuberculosis of the Lungs.—Admission rate for the year 4.92

per thousand of strength, against the average of 2.66 only for the previous decade. The rate of discharge for disability was 1.36, as compared with 1.40 for the previous decade, and the death rate 0.96, as compared with 0.48 for the same period.

Venereal Diseases.—Admission rate for the whole Army was 133.97, and the discharge rate 2.36 per thousand of strength, as compared with 133 and 2.61 in 1899, and with 71.45 and 1.22, the mean annual rates 1889-1899. These large rates prevailed in all the commands except among the volunteer troops serving in the Philippines, the admission rate for these having been 79.94, and the rate of discharge 0.41 per thousand of strength. Among the regular troops in the Philippines the rates were respectively 138.88 and 0.96; among troops serving in the United States, 155.39 and 7.29. In China the admissions rose to 173.60, but there was no discharge for disability. In Cuba the admission rate reached 190.-68, with 4.03 discharges per thousand of strength, and in Porto Rico the excessive admission rate of 367.88 was reached.

Alcoholism.—Admission rate in the Army as a whole during the year 1900 was 15.34 per thousand of strength, as compared with 14.49 in 1899 and with 28.67, the mean annual rate of the decade 1889-1899. Troops serving in the United States during the past year had 22.43 admissions per thousand of strength. The steady decrease of late years in the admissions for alcoholism among men of the Regular Army is a matter for congratulation. Military officers may be said to be unanimous in their opinion that this was mainly the result of the establishment of the post exchange or canteen at military posts. The following shows this gradual improvement: Mean annual admission rate of the decade ending with 1889, 56.68 per thousand of strength. Admission rate for 1889, 41.41; for 1890, 40.73; for 1891, 40.01; for 1892, 37.23; for 1893, 33.97; for 1894, 30.94; for 1895, 30.11; for 1896, 29.06, and for 1897, 27.86. In 1898 the altered conditions consequent on the Spanish-American War prevented further comparisons. There is less drunkenness among troops in active service than in a command doing garrison duty in times of peace. In the Philippines during the past year the admission rate for alcoholism among the volunteers was 8.68, and for regulars 12.41; for troops in China, 7.70. These statistics do not sustain the newspaper reports of drunkenness among the troops in the Philippines. In fact, medical officers report the habits of the enlisted men in the Philippines as very much the same as in the United States. Much of the evil effects of intemperance in the Philippines is attributed to the use of the

native intoxicant, vino, which is a crudely distilled alcohol, causing rapid intoxication, which is readily recovered from when a moderate quantity is taken, but which, taken in excess, causes wild delirium and unconsciousness, and in habitual users induces a deterioration of the mental faculties.

NEW YORK.—Bulletin of the State Board of Health reports for October: Population, 7,268,000; total deaths, 9,738; death rate, 16.0; deaths under five years, 2,627; percentage of deaths under five years to total deaths, 27.0; from zymotic diseases per thousand, from all causes, 150; from cerebro-spinal meningitis, 25; typhoid fever, 235; malarial diseases, 40; small-pox, 14; scarlet fever, 38; measles, 20; erysipelas, 17; whooping cough, 53; croup and diphtheria, 260; diarrhœal diseases, 733; acute respiratory diseases, 916; consumption, 1,112; puerperal diseases, 59; diseases of digestive system (not diarrhœal), 659; urinary system, 792; circulatory system, 923; nervous system, 991; cancer, 424; accidents and violence, 527; old age, 425; unclassified, 1,475.

City of New York, 3,526,517: Total deaths, 5,189; death rate, 17.2; deaths under five years, 1,750; from cerebro-spinal meningitis, 13; typhoid fever, 109; malarial diseases, 27; small-pox, 11; scarlet fever, 31; measles, 17; erysipelas, 12; whooping cough, 28; croup and diphtheria, 142; diarrhœal diseases, 491; acute respiratory diseases, 538; consumption, 639; cancer, 199.

Borough of Manhattan, 1,873,562: Total deaths, 2,830; death rate, 17.8; deaths under five years of age, 973; from cerebro-spinal meningitis, 8; typhoid fever, 58; malarial diseases, 4; small-pox, 1; scarlet fever, 11; measles, 11; erysipelas, 7; whooping cough, 13; croup and diphtheria, 75; diarrhœal diseases, 239; acute respiratory diseases, 274; consumption, 326; cancer, 109.

Borough of the Bronx, 222,124: Total deaths, 373; death rate, 20.0; deaths under five years, 84; cerebro-spinal meningitis, 1; typhoid fever, 6; malarial diseases, 9; small-pox, 10; scarlet fever, 1; croup and diphtheria, 4; diarrhœal diseases, 18; acute respiratory diseases, 41; consumption, 102; cancer, 16.

Borough of Brooklyn, 1,209,064: Total deaths, 1,650; death rate, 16.0; deaths under five years, 584; from cerebro-spinal meningitis, 4; typhoid fever, 38; malarial diseases, 6; scarlet fever, 19; measles, 6; erysipelas, 4; whooping cough, 13; croup and diphtheria, 49; diarrhœal diseases, 102; acute respiratory diseases, 194; consumption, 178; cancer, 60.

Borough of Queens, 162,834. Total deaths, 233; death rate,

17.0; deaths under five years, 81; from typhoid fever, 5; malarial diseases, 8; erysipelas, 1; whooping cough, 2; croup and diphtheria, 9; diarrhœal diseases, 24; acute respiratory diseases, 19; consumption, 20; cancer, 14.

Borough of Richmond, 68,933: Total deaths, 103; death rate, 17.5; deaths under five years, 28; from typhoid fever, 2; croup and diphtheria, 5; diarrhœal diseases, 8; acute respiratory diseases, 10; consumption, 13; cancer, 1.

Of small-pox in the whole city there were for the four weeks ending October 10th, 27 cases, with 9 deaths; for the four weeks ending December 7th, 4 cases, with 8 deaths.

Albany, 94,151: Total deaths, 126; death rate, 15.7; deaths under five years, 15; from erysipelas, 1; croup and diphtheria, 6; acute respiratory diseases, 12; consumption, 22; cancer, 8.

Syracuse, 108,374: Total deaths, 111; death rate, 12.1; deaths under five years, 29; from typhoid fever, 1; croup and diphtheria, 2; diarrhœal diseases, 5; acute respiratory diseases, 9; consumption, 15; cancer, 2.

Buffalo, 352,387: Total deaths, 431; death rate, 14.5; deaths under five years, 110; from cerebro-spinal meningitis, 1; typhoid fever, 11; whooping cough, 1; croup and diphtheria, 17; diarrhœal diseases, 41; acute respiratory diseases, 43; consumption, 43; cancer, 18.

Rochester, 162,608: Total deaths, 185; death rate, 13.4; deaths under five years, 30; from typhoid fever, 4; croup and diphtheria, 3; diarrhœal diseases, 5; acute respiratory diseases, 19; consumption, 26; cancer, 12.

Small-pox continues prevalent in the State. There were estimated to be not less than sixty cases in existence outside of New York City, December 1st, most of them in Buffalo, Rochester and Syracuse, and several points in the vicinity of Syracuse.

REPORT OF THE COMMITTEE ON VACCINATION OF THE NEW YORK COUNTY MEDICAL ASSOCIATION.—Dr. Frederic W. Loughran, chairman of this committee, presented the report at the recent meeting. It declared that the State of New York was almost the only State in which vaccination could not be enforced during an epidemic of small-pox. The following were the principal recommendations of the committee: All boards of health of cities and towns should furnish the means for vaccination and revaccination, and the State Board of Health should have authority to enforce vaccination during the prevalence of an epidemic of small-

pox. No child should be admitted to any school who has not been vaccinated within a period of five years. Inmates of State asylums should be vaccinated on entrance, and members of the National Guard should be required to be vaccinated. All corporations or firms employing more than ten persons should be compelled to employ only persons who had been successfully vaccinated, or who presented a certificate from a reputable physician stating that they had been twice vaccinated, and that vaccinal insusceptibility exists. The penalty for violation of such laws regarding vaccination should be a fine of from $50 to $100, or an equivalent term of imprisonment, this penalty not to stand in lieu of vaccination.

CALIFORNIA.—San Francisco, 360,000. Report for October: Total deaths, 566; death rate, 18.86; deaths from cerebro-spinal meningitis, 3; typhoid fever, 15; small-pox, 1; bubonic plague, 3; whooping cough, 4; croup and diphtheria, 10; diarrhœal diseases, 26; acute respiratory diseases, 54; consumption, 68; cancer, 30.

Los Angeles, 102,479. Report for October: Total deaths, 149; death rate, 14.53; deaths under five years, 15; from cerebro-spinal meningitis, 3; typhoid fever, 3; whooping cough, 1; diarrhœal diseases, 4; acute respiratory diseases, 1; consumption, 25; cancer, 13.

COLORADO.—The Rocky Mountain *Industrial Sanatorium*, organized in Denver last spring, is now in operation. On a ten-acre tract, five miles from Denver, fifteen or twenty patients in an early stage of consumption are, under the plans of the promoters, virtually taking care of themselves. The rules of the institution compel a continuous outdoor life, to be maintained summer and winter. Each patient is provided with a roomy tent, plenty of warm clothing and blankets, and a small stove to be used only in extremely cold weather. Experience has proved that with proper food and clothing, and a life in the open air and sunshine, artificial heat is unnecessary, and becomes absolutely unbearable to the patients, who, without exception, are gaining rapidly. The co-operative idea has already been put into force, for many of the patients are supporting themselves wholly or in part by doing the work on the premises.

Nordach Ranch is located at Austin Bluffs, about two miles outside the city limits of Colorado Springs. Standing at the foot of high bluffs it is sheltered on all sides from cold winds, and as it faces the south, it has the benefit of plenty of sunshine. The house

itself is of red sandstone, substantially built, and designed in an attractive manner. There are the necessary sun parlors, dining room, billiard room and bedrooms, all furnished in the most approved style.

The grounds are large and provide tennis court and golf links. Following out the plan of affording the patient plenty of pure air, it is intended to have a large number of the guests live in open air. With this end in view tents have been erected. Each one is designed so that a current of pure air is kept in circulation night and day. They are tastefully furnished with rugs, stove, iron bedsteads and all things necessary to comfort. In the centre of the tents is one for the nurses, from which there is connection to all the other tents by electric bells. In addition to this each tent has the same connection to the house. This places the patient in a position where he can summon the nurse or medical aid any hour of the day or night. There is also a tent fitted as a sitting room, which guests can occupy and pass their time in reading or other recreations.

These arrangements certainly secure for the patient the maximum of pure air and plenty of home comfort. Medicine has a minor place in the method of treating lung trouble, but good food well prepared will be an aid largely depended upon.

CONNECTICUT.—The State Board of Health Bulletin reports for October: Total deaths in 168 towns with an aggregate population of 908,355, 1,062; death rates, for the large towns, 14.1; for the small towns, 13.7; for the State, 14.0; deaths under five years, 294; from typhoid fever, 38; malarial diseases, 11; scarlet fever, 1; influenza, 8; measles, 1; whooping cough, 9; croup and diphtheria, 36; diarrhœal diseases, 66; acute respiratory diseases, 94; consumption, 91.

DISTRICT OF COLUMBIA, 278,880. Report for five weeks ending November 30: Total deaths, 499; death rate, 18.61; deaths under five years, 127; from typhoid fever, 25; malarial diseases, 4; croup and diphtheria, 16; diarrhœal diseases, 18; acute respiratory diseases, 68; consumption, 70; cancer, 21. For the year 1900, total number of deaths among the white population was 3,430, a death rate of 17.82 per cent. Among the colored people the number of deaths was 2,657, a death rate of 30.73 per cent. The total number of deaths was 6,087, a mean death rate of 21.83 per cent.

FLORIDA.—State Health Officer Porter reports for the year 1900: 9,610 births, 6,493 marriages, and 5,949 deaths. The population of the State, according to the recent census, is 528,442, which gives a birth rate of 17.99 and a death rate of 11.24 per 1,000. The death rate the previous year (1899) was 11.67, while the birth rate was 15.50; hence the figures for 1900 are encouraging as showing an advance in the birth rate and a slight decrease in the number of deaths. As far as can be ascertained, these figures compare most favorably with the showing made by other States. The six principal causes of death were: Consumption, 493; malarial fever, 330; pneumonia, 316; nephritis, 143; influenza, 133; and paralysis, 111. Of the 5,949 decedents, 176 were from "old age," being beyond eighty years; 143 from "gunshot wounds," and 203 from other violent causes of death, such as drowning, burns, lightning, etc. While, without an exception since the board has gathered statistics, consumption has headed the list as occasioning the largest number of deaths, it is gratifying to note that but 493 are reported in 1900 as against 490 the year before, and 392 in 1898.

ILLINOIS.—Chicago, 1,756,025. Bureau and Division, Department of Health, report for September: Total number of deaths, 2,070; annual death rate, 13.95. With regard to *small-pox,* reference is made to the group of States of which Illinois is the centre and with which Chicago is in most immediate and constant communication, in which there had been during the first thirty-six weeks of this year a total of 15,373 cases of small-pox reported, as against a total of only 5,620 cases reported during the corresponding period of 1900. This is an increase of 273 per cent. in the Northwestern States, as against an increase of less than 75 per cent. in the rest of the country. In the State at large, outside of Chicago, there have been fewer cases (229) this year than last (250); but in the city itself there have been 248 cases this year, as against only 51 last year.

This great increase—nearly five times more than last year—is due, of course, to the repeated importations from the surrounding infected territory, and while no new case has been discovered since August 12, and the city has been free from the disease since August 28—date of discharge of last case from the Isolation Hospital—it is not to be expected that further importations can be prevented during the fall and winter.

Of the deaths for the month there were: From typhoid fever,

74; diphtheria, 34; whooping cough, 21; scarlet fever, 8; other zymotic diseases, 7; consumption, 171; other tubercular diseases, 36; pneumonia, 151; other diseases of the respiratory organs, 17; cancer, 96.

INDIANA.—The Secretary of the State Board reports for November: Deaths, 2,402; annual death rate, 11.6. Deaths under 1 year of age, 325; 1 to 5, 157; from 65 and over, 637. Deaths: Consumption, 293; typhoid fever, 156; diphtheria, 43; scarlet fever, 6; pneumonia, 206; cerebro-spinal meningitis, 13; influenza, 10; cancer, 88; diarrhœal diseases, 56; puerperal fever, 15; violence, 106; small-pox, 2.

All cities, representing a population of 847,302, report 956 deaths, an annual rate of 13.7; last year, for the same month, 1,037, a rate of 14.4. The country deaths, 1,446; 10.5. The death rates from certain causes per 100,000 in cities and country were, respectively: Consumption, city rate, 178.5; country rate, 123.5; typhoid fever, 90.7 and 67.9; diphtheria, 25.9 and 18.2; pneumonia, 118 and 90.6; influenza, 1 and 6.5; cancer, 41 and 65; violence, 59 and 47.5. *Small-pox* was reported in 16 places, with an aggregate of 193 cases and 2 deaths.

IOWA.—Davenport, 40,000. Report for October: Total deaths, 27; death rate, 9.19; deaths under five years, 6; from typhoid fever, 1; whooping cough, 1; diarrhœal diseases, 2; consumption, 4; cancer, 2.

KANSAS.—The Secretary of the State Board reports the existence of *small-pox* during the month of November in 18 localities, with an aggregate of 137 cases and 2 deaths.

KENTUCKY.—*Small-pox* is reported in all but nine of the 119 counties in the State, those nine being remote from the main lines of travel. Practically the entire body of physicians and health officials have had more or less experience with small-pox during the present epidemic, covering a period of nearly four years. A total of 394 distinct outbreaks are reported, 85 of these being fresh importations from other States. In all, 11,269 cases are reported, with 184 deaths, a mortality of 1.63 per cent. Special hospitals were erected in sixty-three counties and municipalities, but probably a majority of cases outside of the large cities and towns were isolated and treated in their homes. Reports are made of 392,-

280 persons vaccinated during the epidemic, and of 408,825 found protected by one or more previous vaccinations, out of a total population of 2,147,179, leaving 1,335,039, or a little more than 62 per cent., unvaccinated. The actual cash expended from county and municipal treasuries on account of small-pox was $308,271, to say nothing of the expense to individuals. The reported loss from interference with business was $734,000. This does not include the great loss to transportation companies from interference with travel and commerce.

LOUISIANA.—New Orleans, 300,000 (80,000 colored). Report for October: Total deaths, 503 (198 colored); death rates, white, 16.63; colored, 29.72; total, 20.12; deaths under five years, 113 (52 colored); from typhoid fever, 12; malarial diseases, 17; scarlet fever, 2; erysipelas, 2; whooping cough, 3; croup and diphtheria, 8; diarrhœal diseases, 24; acute respiratory diseases, 35; consumption, 77; cancer, 15. The "Times-Democrat" has frequently called attention to the remarkably good health New Orleans has enjoyed this summer, which is not only a record-breaker for the summer, but for any season of the year, and makes a better showing than any large city of the country for the hot season. What has been true of New Orleans is equally true of the State of Louisiana as a whole; indeed, we could make the statement even broader, and say that it is true of the entire South. The past summer has been phenomenal in the matter of the public health throughout the Gulf and South Atlantic States, and has been made the text for many congratulatory articles on the subject. The explanation would seem to be that the South has escaped the severe hot waves which caused so much suffering and loss of life north of the Ohio and Potomac.

To return to Louisiana, the State Board of Health remarks that "in the interior of the State, as well as the city of New Orleans, the public health has been exceptionally good."

The encouraging feature of this report is that it will convince the people of the beneficial results of a vigorous sanitary policy and encourage them to support the authorities in carrying out thorough sanitation. When they can see, as clearly as they can now, what drainage, quarantine, etc., have accomplished, how many hundreds of lives have been saved, they will not hesitate to give their cordial approval to the work under way, or such new work as may be necessary to put New Orleans and Louisiana in first-class order. It has been proved that there is no healthier

portion of the country than the South if it but show proper regard for the rules of hygiene and sanitation.

MARYLAND.—Baltimore, 518,000. Report for October: Total deaths, 765; death rate, 17.72; deaths under five years, 249; from cerebro-spinal meningitis, 2; typhoid fever, 20; scurvy, 1; measles, 1; scarlet fever, 3; whooping cough, 7; croup and diphtheria, 14; diarrhœal diseases, 53; acute respiratory diseases, 88; consumption, 88; cancer, 30.

MASSACHUSETTS.—Boston, 573,579. Report for September: Total deaths, 931; death rate, 19.48; deaths under five years, 364; from cerebro-spinal meningitis, 6; typhoid fever, 17; small-pox, 2; scarlet fever, 6; measles, 3; whooping cough, 7; croup and diphtheria, 11; diarrhœal diseases, 151; acute respiratory diseases, 65; consumption, 104; cancer, 43.

Lowell, November 10.—There are, as far as known, twenty-one families in which one or more members belonging to one of the schools are ill with *diphtheria,* and doubtless other cases, while no account was made of that large number who have not yet seen a physician. Five pupils belonging to the school have died during the past two or three weeks, and in two instances, at least, owing to some one's negligence, the teachers received no notification card until after the death and burial of the children.

MICHIGAN.—The secretary of the State Board reports for November, 1901, compared with the preceding month, influenza, pneumonia, pleuritis, diphtheria, small-pox, whooping cough, erysipelas and measles were more prevalent; and diarrhœa, typhoid fever, inflammation of bowels, dysentery, cholera morbus and cholera infantum were less prevalent. Reports from all sources show cerebro-spinal meningitis reported at 3 places less; measles at 3 places less; whooping cough at 2 places more; small-pox at 38 places more; diphtheria at 11 places more; typhoid fever at 67 places less; scarlet fever at 4 places less; and consumption at 4 places more, in the month of November, 1901, than in the preceding month.

Deaths returned to the Secretary of State for the month of November, 2,454; death rate, 12.5; 94 less than for the preceding month, and 7 less than for November, 1900. This total includes 30 deaths that resulted from the explosion in the Penberthy Injector Works of Detroit, and includes but six of the deaths,

variously estimated from 22 to 75 and upward, that occurred at the collision on the Wabash Railroad near Seneca on November 27th. Most of the deaths that occurred there were those of recent immigrants, Italians and Austrians, passing through this State from the East to the West, and, as they were not actually a part of the population of Michigan, the omission of the mortality from this source will not seriously affect the death rate for the month, as compared with preceding months of registration.

Of the total number of deaths reported, 346 were infants under 1 year of age, 177 were children aged 1 to 4 years, both inclusive, and 659 were deaths of persons aged 65 years and over. Deaths from pulmonary tuberculosis, 137; other forms of tuberculosis, 29; typhoid fever, 79; diphtheria and croup, 59; scarlet fever, 27; measles, 6; whooping cough, 8; small-pox, 2; anthrax, 2; pneumonia, 206; diarrhœal diseases of children under two years of age, 42; influenza, 11; cancer, 127; accidents and violence (exclusive of deaths at Wabash wreck), 188.

MINNESOTA.—Minneapolis, 240,000. Report for October: Total deaths, 175; death rate, 6.58; deaths under five years, 40; from typhoid fever, 8; whooping cough, 2; croup and diphtheria, 20; diarrhœal diseases, 9; acute respiratory diseases, 10; consumption, 20; cancer, 13.

St. Paul, 165,000. Report for November: Total deaths, 111; under five, 22; death rate, 8.06; from consumption, 21; pneumonia, 16; typhoid fever, 2; diphtheria, 5.

MISSOURI.—St. Louis, 598,000. Report for October: Total deaths, 787; death rate, 15.79; deaths under five years, 213; from typhoid fever, 32; malarial diseases, 11; small-pox, 1; scarlet fever, 13; whooping cough, 5; croup and diphtheria, 20; diarrhœal diseases, 39; acute respiratory diseases, 70; consumption, 79; cancer, 23.

NEW JERSEY.—Newark, 250,000. Report for three weeks ending November 16: Total deaths, 230; death rate, 15.94; deaths under five years, 63; from typhoid fever, 3; small-pox, 7; croup and diphtheria, 3; diarrhœal diseases, 7; acute respiratory diseases, 18; consumption, 33; cancer, 5.

Hudson County (Jersey City and environs), 386,048. Report for September: Total deaths, 582; death rate, 18.1; deaths under five years, 266; from typhoid fever, 13; malarial fevers, 2; measles,

2; scarlet fever, 3; whooping cough, 2; croup and diphtheria, 15; diarrhœal diseases, 39; acute respiratory diseases, 44; consumption, 60.

NORTH CAROLINA.—The State Board of Health Bulletin reports for October: Total deaths in 24 towns, with an aggregate population of 140,000 (55,200 colored), 230 (114 colored); death rates, white, 16.3; colored, 24.8; total, 19.6; deaths under five years, 83; from typhoid fever, 21; scarlet fever, 4; malarial fever, 18; diphtheria, 6; whooping cough, 2; pneumonia, 4; consumption, 25; nervous diseases, 28; heart disease, 14; diarrhœal diseases, 25; accidents and violence, 6; all other causes, 77.

OHIO.—Cleveland, 300,000. Report for October: Total deaths, 466; death rate, 14.33; deaths under five years, 151; from typhoid fever, 9; malarial fever, 2; scarlet fever, 4; croup and diphtheria, 24; diarrhœal diseases, 27; acute respiratory diseases, 51; consumption, 17; cancer, 15.

PENNSYLVANIA.—Philadelphia, 1,293,697. Report for five weeks ending November 30: Total deaths, 2,003; deaths under five years, 395; from typhoid fever, 24; malarial fever, 2; small-pox, 41; scarlet fever, 13; erysipelas, 3; measles, 2; whooping cough, 11; croup and diphtheria, 66; diarrhœal diseases, 75; acute respiratory diseases, 305; consumption, 253; cancer, 68.

Vaccination.—At a recent meeting of the State Board of Health the following resolutions were adopted:

"Resolved, That in view of the very natural public apprehension in regard to the possibility of tetanus following vaccination, as illustrated by recent cases of this accident in a neighboring State, this board desires to state its conviction, founded upon a careful study of the history of vaccination and of the cases referred to, that it has yet to be demonstrated that vaccine virus ever contains or becomes contaminated with the germs of tetanus. When such occurrences as those referred to take place, it is because owing to carelessness, usually on the part of the person vaccinated, the germs of tetanus have gained access to the wound on the arm, as they may to any other wound, abrasion, or scratch upon the surface.

"Resolved, That there is no reason for dreading, or abstaining from vaccination, because of these recent cases. This is sufficiently demonstrated by the fact that more than half a million

persons have been vaccinated in and around the city of Philadelphia within the past few months without the occurrence of a single case of tetanus.

"Resolved, That this board condemns in the strongest possible terms the use of any material or medicament administered by the mouth as a substitute for vaccination, and that any physician furnishing a certificate of successful vaccination based upon the administration of any such substance or remedy lays himself open to prosecution for violation of a State law."

Teachers Must Be Vaccinated.—In Common Pleas Court No. 4, Philadelphia, November 14, President Judge Arnold filed an opinion, refusing to grant an injunction in the proceedings recently begun by Mary Helen Lyndall against the Board of Education to have the defendants restrained from interfering with her continuance as a teacher in the Girls' High School. The court ruled as follows: "As school directors may, in the exercise of a sound discretion, exclude from the public schools pupils who have not been vaccinated, as was decided by the Supreme Court, so may they exclude teachers and other employees for the same reason. The protection which vaccination is believed to afford must be reciprocal; teachers and pupils are alike entitled to protection against contagious disease. Whether vaccination is a preventive of small-pox, this court has no power to investigate and decide. The Legislature has authorized, and the Supreme Court has legalized, regulations requiring vaccination, and therefore a court in the first instance is prohibited from inquiring into the efficacy of vaccination as a preventive of small-pox. The opinion of the plaintiff that vaccination is not a preventive, and that it is dangerous to her health, is not a sufficient reason to exempt her from obedience to the order of the Board of Public Education requiring vaccination; hence the offer of the plaintiff to show that she considered it dangerous to her health was irrelevant and immaterial and was properly rejected." The court further held that the Board had the power to make and enforce such a rule as was made, that Miss Lyndall had refused to comply with the regulation, and was therefore subject to suspension or dismissal.

Pittsburg, 332,000. Report for five weeks ending November 30: Total deaths, 610; death rate, 19.18; deaths under five years, 185; from cerebro-spinal meningitis, 2; typhoid fever, 30; malarial fever, 1; scarlet fever, 16; measles, 1; whooping cough, 3; croup and diphtheria, 30; diarrhœal diseases, 19; acute respiratory diseases, 148; consumption, 35; cancer, 15.

RHODE ISLAND.—The report ("Woonsocket Reporter") of the Special Legislative Committee on a State Sanitarium deserves the thoughtful attention of every resident of Rhode Island. The open-air treatment of consumptives is dealt with very succinctly. The recommendation that the State erect such a sanitarium as exists at Saranac Lake, N. Y., or at Rutland, Mass., is one that can heartily be made, without reservation. The discovery that the bacilli that cause tuberculosis are killed by pure air is a comparatively new one, but in the few years that this theory has been acted upon it has been shown to be the right one. Physicians who have recommended the dry atmosphere of Arizona and Colorado as a cure for consumptives have been justified in the experiment, because people could readily see that it was feasible to live outdoors in a dry climate. Later it was learned, however, that pure air, even if accompanied by the moisture which we in New England have so much of, even, in fact, if it were the still moister air of the British Isles, is yet efficacious in the destruction of these bacilli. The air of Woonsocket, if it be pure, is just as good as the air of any other locality for this purpose. Of course density of population gives larger chances for the carrying of the germs in the air, and consequently such a sanitarium is better located in the country—perhaps the further into the wilderness the better. Still, Dr. Swarts, of the State Board of Health, deemed the Woonsocket Isolation Hospital for Contagious Diseases, recently erected, an ideally located and arranged little home for the tuberculously affected.

Although the direct life-saving value of such a sanitarium is great, its indirect value is still greater in its teaching that pure air is sufficient for the salvation of those in the incipient stages of consumption. Pure air is about as near free to all as anything in this world can be. The treatment that is received in the sanitarium may be received in the home, especially in the country home.

With the record of the Rutland, Mass., institution of about 40 per cent. of cases "arrested"—practically that means cured—it will be conceded that the State can engage in no work which will save more lives and be a greater service to its people than to maintain such a home. Massachusetts and New York have such; New Jersey, Iowa, Illinois, Michigan, Maine and other States are preparing for their establishment. Eight hundred deaths a year from consumption in our little State has been the record for many years.

The State of Rhode Island, which is in good financial condition, could not issue bonds for worthier purposes than for the creation of such an institution as is contemplated in the special committee's report.

WASHINGTON.—Seattle, 100,000. Report for October: Total deaths, 73; death rate, 8.76; deaths under five years, 13; from typhoid fever, 2; scarlet fever, 1; diphtheria, 1; diarrhœal diseases, 2; acute respiratory diseases, 8; consumption, 9; cancer, 4.

WISCONSIN.—Milwaukee, 295,000. Report for October: Total deaths, 275; death rate, 11.00; deaths under five years, 91; from typhoid fever, 6; croup and diphtheria, 10; diarrhœal diseases, 21; acute respiratory diseases, 32; consumption, 37; cancer, 17.

PHILLIPINE ISLANDS and City of Manila, 250,000. Report for the week ending October 5: Total deaths, 173; death rate, 36.11; deaths under five years, 117; from malarial fevers, 1; smallpox, 1; dysentery, 3; plague, 2; beri-beri, 2; diarrhœal diseases, 22; acute respiratory diseases, 15; consumption, 13.

CUBA.—Havana, 255,555. Major Gorgas, U. S. A., Chief Sanitary Officer, reports for October, 1901: The most prominent feature is the fact that there have been no deaths from yellow fever in the city, and not a single case. Three cases were reported, but these three cases were taken sick in September and carried forward into October. In the average past ten years, October has been one of the severest months for yellow fever. The maximum number of deaths from yellow fever since 1889, for this month, occurred in 1896, when we had 240 deaths; the minimum, in 1899, when we had 25 deaths; the average, 66.27 deaths; this year, no deaths and no cases. Last year, 1900, we had for October, 308 cases and 74 deaths.

This result adds another month as a practical demonstration of the truth of the mosquito theory of the transmission of yellow fever. The results attained are evidently due to disinfection on the lines commenced in February, as directed by the Military Governor with a view to killing infected mosquitoes. It has only occurred a few times since yellow fever became endemic in Havana, some century and a half ago, that an October day (and certainly never two successive days), has passed without a death

from yellow fever. This year, we passed the whole of October without a case or a death.

Since 1889, for these months, there have been on the average 362.16 deaths; the maximum, in 1896, 871; the minimum, in 1899, with 61; this year, 0.

The change cannot be due to improvement in general hygiene, from the fact that last year, for this month, we had 74 deaths; this year, none. While there has been improvement in the general hygienic conditions, there could not have been so vast a difference as this would represent. The improvement in general hygiene is measured best by the general death rate. The death rate for October, 1900, was 24.33; this year, 1901, 20.17.

The general health of the city is most excellent—better than that of any past October—and compares favorably with other healthful cities of civilized communities. The death rate from month to month shows steady improvement, indicating generally amended conditions.

THE PLAGUE OF 1656 AND NOW.

It is curious to note that there is hardly an order issued to-day by the Government relative to the plague that has just broken out in Naples that was not contained in the edicts of Alexander VII in 1656, when Rome was last visited by the pest, to say nothing of the penalties which he inflicted. Then, the moment news came that Naples was infected, the energetic Pontiff suspended all communication with the kingdom of the Two Sicilies on pain of death. Only letters were allowed to pass after such rigid disinfection that little of them was left. All persons belonging to the Papal States who found themselves in suspected districts were forbidden, also on pain of death, to return, while death was likewise the punishment for those who, coming into a city, did not present themselves at a certain office. Also hotel or inn-keepers, heads of convents, etc., who received any one not having the Papal guarantee, and who did not declare the names of their guests, ran the risk of five years' imprisonment. All this before there was one case in the Papal States. Reading the precautions then taken is like picking up a modern newspaper—lazarettos strictly guarded, isolation and disinfection, navigation of the Tiber forbidden and the churches closed, but all to no apparent purpose. At one time during that terrible year there was not one house in Trastevere (a thickly populated district of Rome) into which the plague did not

enter, so that it was cut off from the rest of the city by a high, thick wall. After twelve months the tide turned and the Eternal City was free, after losing 14,500 of her inhabitants, while at Naples the deaths were 40,000 and at Genoa 60,000.—"The Pall Mall Gazette."

SMALL-POX IN LONDON.—The London correspondent of the "Medical Record," November 15, 1901, says that from twelve to fourteen new cases a day have been reported during the week. One day there were sixteen. Comparison with the spread of the disease in the 1893-94 epidemic shows that the present one is taking the same course—pressing in the most crowded parts.

Of course, overcrowding must facilitate distribution. In 1893-94, shelters for the homeless played an important part in spreading infection.

The County Council has issued a return of all cases this year. Up to the 13th instant they numbered 673. Of these 574 were reported in the eleven weeks ending November 2d.

Much grumbling at the Asylums Board has been heard. They were warned by the medical superintendents of the hospitals in January, 1899, to prepare for an outbreak, but did nothing until it was upon them; so now they have to push on the erection of temporary buildings at all cost.

There is too much divided authority for effective sanitary control. We commit the lodging houses to the County Council; vaccination to the boards of guardians; the removal of cases to the borough councils, and the care of them, when they reach the hospitals, to the Asylums Board. But no one seems to be authorized to sequestrate contracts, and there are other points on which some legislation seems necessary.

Pity the poor anti-vacs. They had the annual meeting of the league on Wednesday, when thirty delegates assembled to hear the president, a lieutenant-colonel, declare that the recrudescence of small-pox is due to a resumption of vaccination!

BOOK REVIEWS.

THE PRINCIPLES OF HYGIENE: A Practical Manual for Students, Physicians, and Health Officers. By D. H. BERGEY, A.M., M.D., First Assistant, Laboratory of Hygiene. University of Pennsylvania. Octavo volume of 495 pages, illustrated. Philadelphia and London: W. B. SAUNDERS & COMPANY, 1901. Cloth, $3.00 net.

This book is intended to meet the needs of students of medicine in the acquirement of a knowledge of those principles upon which modern hygienic practices are based, and to aid physicians and health officers in familiarizing themselves with the advances made in hygiene and sanitation in recent years. The book is based on the most recent discoveries, and represents the practical advances made in the science of hygiene up to date.

Among the important subjects considered are Ventilation, Heating, Water and Water Supplies, Disposal of Sewage and Garbage, Food and Diet, Exercise, Clothing, Personal Hygiene, Industrial Hygiene, School Hygiene, Military and Naval Hygiene, Habitations, Vital Statistics, Disinfection, Quarantine, etc. The idea of the book is to give the reader a clear understanding of the general principles of this broad subject. It is a valuable addition to other recent works on the subject, showing gratifying evidence of the progress of sanitary knowledge and the demand for practical handbooks for inspectors and others in the public health service.

INDEX-CATALOGUE OF THE LIBRARY OF THE SURGEON-GENERAL'S OFFICE, UNITED STATES ARMY. Second Series, Vol. VI. G-Hernette, Washington: Government Print.

"This volume includes 15,589 author-titles, representing 5,865 volumes and 14,296 pamphlets. It also contains 5,962 subject-titles of separate books and pamphlets, and 30,561 titles of articles in periodicals." It is gotten up in the excellent style common to the series.

ANNUAL REPORT OF THE BOARD OF REGENTS OF THE SMITHSONIAN INSTITUTION, for the year ending June 30, 1900. Washington, D. C.: Government Print.

Besides the report of the operating, expenditures and conditions of the Institution, it comprehends an *appendix* of some forty special papers and reports on scientific subjects. Especially notable

among these are the contributions on the "Progress of Medicine in the Nineteenth Century," by Dr. John S. Billings; "Malaria" and "Transmission of Yellow Fever by Mosquitoes," by Dr. George M. Sternberg; "Psychical Research of the Century," by Andrew Lang; "The New Spectrum," by S. C. Langley, and "The Century's Great Men of Science," by Charles S. Peirce. "The New Spectrum" and several other papers are elaborately illustrated.

PROGRESSIVE MEDICINE, Vol. IV, December, 1901, is, as usual, in the front rank on subjects of practical importance to the profession. Under "Diseases of the Digestive Tract and Allied Organs," Dr. Einhorn covers with great thoroughness the medical and surgical treatment of pathological conditions of the œsophagus, stomach, liver, pancreas and peritoneum. In Dr. Belfield's section on "Genito-Urinary Diseases," the subject of general infection by the gonococcus is fully discussed, and tuberculosis of the genito-urinary tract receives the attention which its importance demands. Dr. Bloodgood's article on all the methods of producing anesthesia with efficiency and safety, is particularly commendable. The various pathological conditions of the kidneys are ably treated by Dr. John Rose Bradford. Dr. Brubaker's section on "Physiology" presents the recent advances in the physiology of the glandular system with special reference to the therapeutic value of gland extracts in their therapeutic application. The section on "Hygiene," by Dr. Baker, is notable because of the universal interest excited by the discussion aroused by Dr. Koch's statement that bovine tuberculosis is not dangerous to man, and the recent researches as regards the transmission of yellow fever. "The Practical Therapeutic Referendum," by Dr. E. Quin Thornton, sums up the recent therapeutic methods and remedies, their merits and demerits, as shown by their use. This book is not a mere compilation of recent literature, but a series of critical reviews and original papers by masters of the subjects whereof they treat. Quarterly. $10 per annum. Philadelphia. LEA BROTHERS & CO.

ENLARGEMENT OF THE AMERICAN JOURNAL OF THE MEDICAL SCIENCES.—With the coming of the New Year, that Nestor of medical journalism, "The American Journal of the Medical Sciences," announces that the demand upon its space forces it to largely increase the number of its pages. To each issue, therefore, will be added sixty-four pages, all of which will be devoted to the accommodation of original articles.

The total of 192 text pages in each number makes it not only the largest of medical periodicals, but also enables it continuously to cover special fields which perforce have heretofore received intermittent attention. Monthly, $5.00 per annum. LEA BROTHERS & Co., Philadelphia.

"HER FIRST PICTURE BOOK."—Among the smaller paintings exhibited at the 1900 Paris Exposition, one which attracted much attention and produced a lasting impression, on account of its truthfulness to nature and naively sweet characteristics, was due to the creative genius of an American girl—an Oriental study in water color, entitled "Her First Picture Book," from the brush of Helen Hyde, of California. Frank A. Ruf, the enterprising president of the Antikamnia Chemical Co., St. Louis, became the fortunate possessor of the original painting. His habitual quickness to appreciate the advantage of the association of the beautiful with the useful has found expression in the production of The Antikamnia Calendar 1902—decidedly the most beautiful one that has as yet come to our desk.

CONTEMPORARY LITERATURE.

A GREAT EASTERN NATIONAL PARK.

In a very charming article in the December number of the "North American Review," Prof. N. S. Shaler, of Harvard, advocates the purchase by the Federal Government of a large area in the great southern upland in the State of North Carolina, to serve as a great Eastern National Park. In that region there still remain fragments of the original growth, and, as it is characteristic of the broad-leaved trees that the forests they form are self-renewing, if such a park were created there and properly cared for, it would regain the character of a primitive wood in a comparatively brief period. That such an enterprise would meet with popular approval, Professor Shaler is sure:

"If any one questions whether the establishment of the proposed reservation in the South would meet with the approval of the people, he may have his doubts removed by observing the resort of the folk of the Rocky Mountains to those which have been established in the Far West, particularly to the National Park of Wyoming. All through the summer he may see camping parties of the coun-

try-folk on the way to these pleasure grounds. They often journey for hundreds of miles to have their outing on what they justly feel to be their own property. Living in their wagons and tents, in the care of an admirable corps of guards, they rejoice in their domain—theirs and their successors' forever. Such truly imperial gifts have greatly enriched a part of this country; it will be well, before the remnants of primeval nature have vanished, that the other parts of our realm should have like share in them."

THE NEGRO IN THE FAR SOUTH.

The race problem is not destined to be a very formidable one—whether from the political, the social, or the industrial point of view—in the former slave States of Virginia, North Carolina, Kentucky, Tennessee, and Missouri. The negro element in those States remains relatively stationary, while the white population is growing rapidly. If the negro communities in the Northern States like New York, New Jersey, Pennsylvania and Ohio are tending to increase by a considerable percentage, they are still very inconsiderable in comparison with the immense general growth of these prosperous States. It is in the States farther South that the negroes are making their principal gains. The State of largest negro preponderance ten years ago was South Carolina, where there were 149,117 negroes to every 100,000 white people. This relative proportion has fallen in ten years to 140,249. It is altogether likely that within twenty-five years the whites will outnumber the blacks in South Carolina. But in Mississippi, where ten years ago there were 136,287 blacks for every 100,000 whites, the proportion has increased to 141,552. These are the only two States now in which the negroes outnumber the whites, although in Alabama and Florida the relative proportion of negroes has increased. In Louisiana, on the other hand, the relative decrease of negroes has been very marked. Thus, ten years ago there were 100,143 negroes to each 100,000 whites, whereas the new census shows only 89,199 negroes to 100,000 whites. In Georgia, the proportions of the races have remained almost stationary, there being now 87,600 negroes for every 100,000 whites, whereas ten years ago there were 87,781. In Alabama, there are now 82,636, and in Florida 77,600 blacks for every 100,000 whites. All this points toward the concentration of the colored population in the relatively low and warm regions of South Carolina, Georgia, Florida, Alabama, Mississippi and Louisiana. There has also been a greater proportionate increase of blacks than of whites in Arkansas; but the whites are almost

three-quarters of the population, and the negro gain is unimportant.—From "The Progress of the World," in the "American Monthly Review of Reviews" for December.

YELLOW JOURNALS AND THE YOUNG.

In an editorial on "The New Pace for Children," the editor of the "Century" deplores the effect on childish minds of the too early reading of newspapers, especially those that are run for revenue only.

It is a deplorable fact that of late years, for lack of support, a number of excellent magazines for children have been discontinued —in the latest instance with the frank statement that the vogue of the newspaper had shortened the term of childhood so greatly as to make it impossible to sustain such a magazine, the proprietors saying, in effect, that boys and girls, in the old sense of an audience for juvenile periodical literature, exist no longer. The fault, perhaps, is not with the child, nor with the editor, but with the busy parent of these latter years; for the newspaper-reading child is the product of the last decade. The boy of ten or twelve, at the age when he ought to be acquiring a taste for good literature, is too often left to the ephemeral contents of the illustrated newspaper. Even when the newspaper is a good one he is being startled from the repose of his proper age. He is made a man before his time. He is allowed to share the rapid pace at which modern life is set. Not for him should be

> the heavy and the weary weight
> Of all this unintelligible world.

And if the newspaper be conducted without conscience his mind becomes the breeding-ground of false ideals—infested by the microbes of envy, social discontent, ambitious greed, scandal, desire for luxury, and disbelief in virtue. If he be a child of the tenement, with little other reading, is it any wonder that he should grow up into the criminal class? And yet such newspapers are tolerated in the houses of decent and intelligent people!

The death of President McKinley has set people to thinking as to the insidious influences that may have operated on the mind of the wretched and pitiable assassin, little more than a perverted boy; and, as a consequence, a healthy reaction has set in against the sensational newspaper. It will be well if this shall extend to all newspapers of the class. But it will be best if the country can

be aroused to substitute for them decent newspapers, magazines, and books, and particularly to study carefully the kind of reading which goes to the formation of the character of children.

THE DECEMBER WOODS.

The following poem by Jessica Nelson North, printed in "St. Nicholas" for December, has won for its ten-year-old author a St. Nicholas League silver badge:

I roamed the woods in winter
  When the trees were blank and bare;
When the gusts of wind blew the snow in heaps,
  In the path of the hurrying hare.

A few leaves clung to the tree-tops,
  But those were old and brown;
And the winter breeze shook the snowy trees,
  And blew the dead leaves down.

I gathered a bunch of ivy-leaves,
  Still bright with autumn's glow;
I picked a cluster of berries red
  All sprinkled with feathery snow.

I reached the hill above the creek;
  The snow began to fall;
And thick and fast the wintry blast
  Blew snowflakes over all.

I turned my footsteps homeward,
  Along the smooth-worn track;
A chipmunk hurried up a tree,
  With stripes upon his back.

The dull gray clouds had parted,
  And faintly I could see
That the early setting winter sun
  Was shining down on me.

THE OUTLOOK's illustrated Annual Book Number is filled with reviews of the books of the season, portraits of notable authors, finely illustrated articles on literary topics. It has also the weekly review of current history and the judicial editorial comment which are always the strongest features of this periodical. Among the contributors to this number are Edward Everett Hale, Augustine Birrell, Kate Douglas Wiggin, Hamilton W. Mabie, Frank R. Stockton, Thomas Wentworth Higginson, and many other well-known writers.

Under the general title,

"RELIGIOUS LIFE IN AMERICA,"

Mr. Ernest Hamlin Abbott is giving the readers of "The Outlook" the results of his observations on a trip which occupied some months, and was taken for the express purpose of studying certain church and sociological conditions in typical sections of the country. Of the articles already printed, two deal with the problem of the workingman and the church in special aspects suggested by interviews and studies in Baltimore; while the third, just printed, is an extremely entertaining account of the life and work of a typical Virginia county rectory. Other articles will take up equally typical or little-known subjects, in regions far removed one from the other.

OCTOBER "MONIST."—Dr. Ludwig Boltzmann, professor of physics in the University of Leipsic, and one of the foremost theoretical physicists in the world, defends the doctrine of atomism against the attacks that have been made upon it in recent years by the schools of Mach and Ostwald, and the followers of the great mathematical physicist, Kirchhoff. This article is one of the most important that has appeared in this great controversy in the philosophy of science. In the same number Professor Sergi, of the University of Rome, discusses the modern theories of biological heredity; Professor Lombroso, of Turin, again takes up cudgels for his theory of Genius, and Prof. R. M. Wenley, of the University of Michigan, vividly sketches the development of natural theology and the philosophy of religion in England during the nineteenth century, with special reference to the liberal endowment of lectureships on the science of religion by the late Lord Gifford, concerning which he has drawn much material from unpublished MSS. and letters. Finally, Kant's significance in the history of philosophy is discussed by

Dr. Paul Carus, who elucidates the difficulties of Kant's metaphysical terminology and reviews the relations which obtained between Kant and the great Swedish mystic, Swedenborg.

CORRECT QUOTATION.

If you must quote, do quote correctly, says the editor of "St. Nicholas." Is the pen mightier than the sword? Thousands say or print, "The pen is mightier than the sword." It may be true, but if it is meant for a quotation it is not fairly given. The original lines in the play are:

> Beneath the rule of men entirely great,
> The pen is mightier than the sword.

This error has been corrected over and over again. But those who misquote seldom read what they are pretending to quote, but quote from a man who quoted from another man who—and so on. In many books will be found long lists of these prevalent misquotations.

MEDICAL KNOWLEDGE TAUGHT BY THEATRICAL PLAYS.

There is a tendency on the part of playwrights in France to try to teach the public certain medical facts by means of the theatre. Not long ago a play called "Les Remplacantes" showed the evils of employing wet nurses. Still more recently a drama called "Le Baillon," i. e., "The Gag," was given as a means of showing the results of professional secrecy. A young woman is brought up in ignorance of the fact that she is tuberculous. One lover finds it out before the marriage ceremony takes place and jilts her. Another, who is kept in ignorance, finds it out when it is too late. The unconscious victim of this disease is looked upon as a plague-stricken creature, and wonders why even children are not allowed to embrace her. She at last finds out the secret. The dramatic author, Brieux, has recently finished a play called "Les Avariés," averié meaning decayed, spoilt, and in it he shows the danger of luetic contagion in marriage. He is a member of the league against syphilis, recently founded by several prominent medical men, among them being Fournier, and their ideas on this subject are put forth in this play. The public censor forbade, however,

the giving of the play before the general public, so a select audience was chosen and the piece read to them by Brieux. There is nothing wrong in itself in the play, but it is to be doubted whether such topics can well be placed before the general public.

WHAT PROCTOR IS DOING.

With the opening of Proctor's new theatre in Newark, the Proctor Circuit will include seven theatres—believed to be the largest chain of houses under control of one ownership in the world. The new house will be open to accommodate Christmastide pleasure-seekers, and the introduction of the best in vaudeville will be the policy of the house.

The F. F. Proctor Stock Company will continue the presentation of old comedies elaborately revived in the New York theatres of the circuit, and vaudeville will be the policy at Manager Proctor's Albany and Montreal houses. Vaudeville will also be given between acts of the several dramas presented, as usual.

The vaudeville talent in the Proctor entertainments promise to be always of the best, and at all times to represent the best selections of American and foreign talent the profession affords.

MIXED.

She had read the advertisements
  In the papers o'er and o'er,
But had gotten somewhat muddled
  As to what each thing was for.

So when she had a bilious turn,
  She took some Pyle's Pearline;
She scrubbed the floor with Sozodont,
  But could not get it clean.

And for a torpid liver
  She took Sapolio,
And put Castoria in the cake;
  She got them muddled so.

—JAY KAYE, "New York Life"

SANITARY SCIENCE.

A SYNOPSIS OF SANITARY SCIENCES AS REPRESENTED IN THE SANITARIAN, ALPHABETICALLY.

By THE EDITOR.

"The purpose of this publication" (as declared at the outset, April, 1873, was and) "is to so present the results of the various inquiries which have been, and which may hereafter be, made for the preservation of health and the expectations of human life, as to make them most advantageous to the public and to the medical profession.

"The resources of sanitary science are inexhaustible. It will be a chief object of THE SANITARIAN to awaken public attention to the extent of the field, and to the facts indicating how beneficently it may be cultivated. This will be done by showing the amount of ill-health and mortality from preventable causes of disease; by pointing out the nature of those causes and the way in which they operate; by showing that such causes are removable, and by exhibiting improved health, longevity and happiness as the fruits of their removal.

"The laws of physiology and general pathology will be kept in view, as the basis of health; by the observance of which hygiene constitutes a department of science which the medical profession can advantageously share with the public, or apply to individuals, according to circumstances. The detail of these relations will involve questions of manifold significance, and many of them of the utmost importance to human health.

"The practical questions of State medicine: the health of armies and navies, marine hygiene, quarantine, civil cleanliness, water supply, drainage and sewerage. Sanitary architecture: light, space, warming and ventilation. Climate and domicile: endemic, epidemic and hereditary diseases. Occupation, exercise and habits; food and beverages, in all varieties of quality and quantity. In short, whatever thing, condition or circumstance is *en rapport* with, or antagonistic to, the perfective culture of mind and body will be considered legitimate matter for THE SANITARIAN to discuss, advocate, condemn or reject at the *bar of health.* Advertise-

ments will fall under the same category; none will be admitted of questionable character in this regard.

"In fulfilment of its mission, THE SANITARIAN asks kindly consideration and assistance from all who would aid in the protection of the most precious of gifts divine—*human life.*"

Upon this basis it has proceeded until there are now thirty-seven volumes complete—one volume a year for the first eleven years, and since that time two volumes yearly.

A CITY OF HEALTH. Benjamin Ward Richardson.—A theoretical essay based upon knowledge of existing conditions, guided by scientific knowledge, elaborating the foundation and construction of a city, and the administration of affairs on strictly sanitary principles. It proceeds upon the quaintly expressed axiom of my lord of Verulam, "The past ever deserves that men should stand upon it for a while to see which way they should go, but when they have made up their minds they should hesitate no longer, but proceed with cheerfulness." The past ere the words "Sanitary Science" had been written and the then status of the initiatory work for the promotion of the public health, particularly in England, under the leadership of Edwin Chadwick and William Farr, are summed up, and from a study of these conditions, conclusions are deduced and a foundation laid for future progress.—iv, 29, 68.

A Bad Boy in 1380, xiv, 564.

A Bill to Make Idiots, x, 184.

A Brave Physician, xxxiv, 139.

A Clean Kitchen Makes a Clean House, x, 6.

A Crazy Young Man, ii, 254.

A Fly in the Beer, xxxiv, 526.

A Healthful Resort, xxxvi, 563.

A Hundred Thousand Homes, iv, 148.

A Jolly Old Tar, xxxvi, 286.

A Lady's Nose Saves a Man's Life, ii, 133.

A Long-lived Family, xxxvi, 247.

A New Official's Expert, xxxiv, 525.

A Prisoner's Testimony—About Milk, iv, 138.

A Maid's a Maid for A' That, xxxviii, 217.

A Sanitarian on the Scourge (Yellow Fever) in 1879, vii, 420.

A Slight Mistake, xxxiv, 339.

Abatement of Smoke Nuisance, x, 139.

ABATTOIRS AND DROVE YARDS. John H. Rauch.—A reply to particular questions relating to the sanitary relations on the propo-

sition to establish an abattoir and stock-yards at West Philadelphia, 1874. With practical knowledge of the then most extensive abattoir and stock-yard establishment in the country, at Chicago; careful inspection of the proposed location at West Philadelphia and its relation to the water supply, by drainage into the Schuylkill River, and familiarity with the dangers common to such conditions, basal conditions are comprehended applicable to the establishment of abattoirs and stock-yards generally, ii, 472, 557.

ARATTOIRS AND THE SLAUGHTERING BUSINESS IN NEW YORK. E. H. Janes.—Lucidly states the conditions, difficulties and conflict with sanitary requirements then existing, in 1887, and the perpetual needs of sanitary surveillance of all such establishments, v, 315.

Abbott, A., Physiology of the Rogue, xx, 289.

Abbott, A. C., Corrosive Sublimate as a Disinfectant, xxvii, 15.

Abbott, A. C., Considerations Concerning Asiatic Cholera, xxxi, 39, 97.

Abbott, S. W., What Constitutes a Filth Disease, xxvi, 193; National Registration a Necessity, xxxii, 241; Recent Progress in Public Hygiene, 486; Smallpox: a Review of Its Prevalence, xxxiii, 220; Cultivation of Vaccine Lymph, 414; Progress in Public Hygiene, xxxv, 45; Consumption an Indoor Disease, xli, 311; Saving the Children, xlii, 39; Public Hygiene and State Medicine in the United States, xliv, 336; The Relations of Agriculture to Public Health, xlv, 435.

Abdominal Organs, Wounds of, xxxiv, 361.

Abdomen, Penetrating Wounds of, xlii, 530.

Abernethy and General Dix, xi, 631.

About Ice, xlvi, 539.

Abscess, The Value of an, xv, 310.

Abscess of the Liver, xxxv, 340; xxxvi, 25; xliii, 447.

Abnormal Pleasures and Pains, Ribot, xxxvi, 187.

Absent-Mindedness, xxxix, 52.

Absorption of Odors by Milk, xxiv, 77.

Absurdities, xl, 403.

Abstainers, Total, Special Insurance for, xlvii, 65.

Academy of Medicine, The New York, x, 175.

Accidents, xi, 475.

Accident Association, Mutual, xxi, 258.

Accidents, Coal Mine, xxv, 125.

Accidents, Locomotive, in Paris, for a Month, xlvii, 374.

Accidents, Railway, xxxi, 454; xxxiii, 163.

Acidity of Urine, Determination of, xli, 154.
Acne, Hypertrophic, of the Nose, xxxi, 269.
Acorn Bread, xiii, 257.
Actinomycosis, Crookshank, xxvii, 543.
Actinomycosis of the Umbilicus, xli, 548.

ACTION.

"No action, whether foul or fair,
Is ever done, but it leaves somewhere
A record, written by fingers ghostly
In the greater weakness or greater strength
Of the acts which follow it."—Anon., xl, 567.

ACTION, THE, OF MUDDY WATER ON SEWAGE, W. H. Brewer.—A brief but suggestive paper on more or less universal conditions common to water supplies—the relation of mud to other suspended matters, to saline and acid substances, dissolved in water, and its actual utility in depriving water of bad odors, other and greater impurities, compared with which mud is wholesome, ix, 118.
Adami, George, Bacillus Pyocyaneus, xxxiv, 212.
Adams, C. F., The Quack, iii, 116.
Adams, J. F. A., The Prevention of Disease in Massachusetts, xxiv, 335.
Adams, J. Q., Sanitary Regulations, v, 460.
Adams, J. W., The Croton Valley Watershed and Its Sponsors, xxx, 385.
Adams, J. W., Sewerage, xiii, 97; The Future of New York's Water Supply, xxii, 26.
Adams, S. H., Bacterial Treatment of Sewage in England, xlv, 313.
Addison's Disease, Eitlanger, xxxviii, 54.
Addie, P., Removal of Unsanitary Areas and the Management of Improvement Schemes, xlii, 19.
ADIRONDACK WILDERNESS: The Great Forest Park of the State of New York, in a Sanitary Point of View. By Verplanck Colvin, C. E., I, p. 241.—The gist of a topographical survey and meteorological study, illustrated with a map showing the situation of the chief lakes, streams and mountains; gives meteorological data and comparison with approximately similar regions elsewhere, showing its superior advantages.
Adirondack's Sanitarium, The New, Description of the Site and Buildings, xli, 12.

Adirondack Sanitarium, The New, xli, 12.
Administration of the Medical Law of New York, xxxiii, 493.
Admonition, xxxvii, 444.
Adulterations, American Food, xviii, 332.
Adulteration of Beer Grains, Robeson, xl, 116.
Adulteration of Flour, xiii, 438.
Adulteration, The, of Food, Wiley, xxxii, 385.
Adulteration of Food and Drugs, x, 237; xi, 168, 188, 345; xiii, 431; xlii, 481; xlvi, 265.
Adulteration of Food and Drugs, National Bills for the Prevention of, xviii, 51; xxviii, 446.
Adulteration of Houses, ii, 314.
Adulteration of Soaps, viii, 426.
Adulteration of Wines, xii, 373; xxix, 20.
Aërotherapy in the Treatment of Disease, xxxviii, 137.
Aërotherapeutics and Hydrotherapeutics in Tuberculosis, Knoff, xxxix, 24.
Africa, The West Coast, The Fever of, White, xxvi, 300.
Africa, South, Steerage, xlv, 96.
African Baby, An, The Hard Life of, xxxvii, 383.
"Afternoon Service," xliv, 92.
Advertising Quackery, vii, 121.
Advice to Mothers, ii, 274.
Advice to Mothers on the Care of Infants, ix, 367.
Against the Use of Curs for the Promotion of Surgery, xxxiv, 521.
Age, Old, as a Permanent Disability, xxv, 321.
Age, Old, xxxix, 379.
Aged One Hundred and Nine, Chesley Neal, xxii, 358.
Ages, Relative, of Husband and Wife, Karosi, xxvii, 541.
Agi-agi, xvii, 44.
Agnew, C. R., Importance of Sanitary Science, i, 3; Defective Drainage, 562; School Diseases, ii, 241; Children's Eyes, iii, 313; Effects of School Life Upon the Eyes, 200.
Agnew, D. H., Salting the Streets for the Removal of Snow, iv, 105.
Agricultural Production Obtainable from Town Sewage, Edwin Chadwick, vi, 224.
Agricultural Uses of Bacteria, Sternberg, xxxvi, 477.
Aid to Common Schools, Henry W. Blair, x, 449.
Air, A. Powers, iv, 441.
Air, The, of the Sea, xvii, 155.
Air, Artificial, xlv, 424.

Air, Pure, and Sunlight, xl, 91.
Air for Babies, Jerome Walker, ii, 154.
Air, The City Needs a Change of, Richard McSherry, x, 385.
Air, Dry, Inefficiency of as a Disinfectant, xv, 80; Impure, Predisposing to Consumption, Chancellor, xvi, 125; Pressure, Abnormal, Intrathoracic, and Treatment, Denison, xxv, 406.
Air and Light, W. M. Carlton, i, 167; Leopold Brandeis, iii, 228.
Ailanthus Trees, iv, 332.
Alabama Opposes National Quarantine, xli, 554.
Air, The, Binoxide of Sodium, for Purifying, Disgrez, xlv, 449.
Air, To Revitalize, xlv, 257.
Air, Change of, The Science of the, Robinson, xxxvii, 385.
Air, Indicator, Foul, xxxii, 148.
Air Polluted by Sewage Emanations, Nottier, xxxv, 63.
Aiken, and Aiken's Advantages, xxvi, 78.
A LA CESSPOOLS.—"You must admit, Jim Webster, that you stole those pullets," said the Galveston judge to the culprit. "Jedge," responded Jim, "I don't really believe I stole dem chickens. In de fust place, Jedge, nobody saw me take 'em. In de next place, dey could not be found on my premises, because I had done hid dem chickens under de floor. I can't help believin', Jedge, dat I is innocent as a lam." ix, 467.
Albany, Health Interests, Balch, xxx, 481.
Albany, Some Public Conditions of Sanitary Interest in, Curtis, xxx, 487.
Albany, Typhoid Fever in the Normal School, xxxv, 170.
Albany's Water Supply and Her Neighbors, Featherstonhaugh, xliii, 318.
Alcohol, The Demon, Daniel, xl, 36.
Alcohol, xiii, 84, 85; Van Bebber, Use of, xvii, 34, 43.
Alcohol and Alcoholism, Roubinowich, xxxv, 400.
Alcohol and Other Anæsthetics, Davis, xxxv, 389.
Alcohol, Does It Ever Act as a Food? Davis, xxxv, 389.
Alcohol, Uses and Abuses of, Duckworth, xxvii, 533.
Alcohol, Fifty Aphorisms on, xxxvii, 149.
Alcohol, Influence of on Longevity, Greely, xxxv, 403.
Alcohol, Physiological and Pathological Effects of, xxxv, 336.
Alcohol and Cyclism, Jacquet, xliii, 236.
Alcohol as a Food, Conn, xliii. 143.
Alcohol, Nutritive Qualities of, Atwater, xliii, 73.
Alcohol, An Appeal to Truth About, xliv, 240.
Alcohol, Action of as a Cause of Idiocy, Bonneville, xlvi, 534.

Alcohol, Detriments of, Bienfait, xlvi, 428.
Alcohol, Gastric Changes by, xlvi, 428.
Alcohol, The Real Effects of, Schmiedeberg, xlvii, 509.
Alcoholic Treatment of Diphtheria, Chapman, vi, 233.
Alcoholic Strength of Various Bitters, xi, 322.
Alcoholic Drinks, Abuse of from a Sanitary Standpoint, xxxv, 508.
Alcoholism and Criminality, xxi, 466; xxiii, 40.
Alcoholism and Heredity, D'Armand, xxvii, 202.
Alcoholism, Origin of, xxix, 537.
Alcoholism and "Gold Cures," Tanner, xxxiv, 326.
Alcoholism in Children, xlii, 531.
Alcoholism, Effectual Treatment for, xxxvi, 18.
Alcoholism, A Symposium of, xxxv, 385.
Alcoholism in Sweden, xxxvi, 557.
Alcoholism in Great Britain, xliv, 257; Mosel, xliv, 99.
Alcoholism, Singular Fatality of, xliv, 71.
Alienists, Conference of, xi, 478.
Alimentary Substances, An International Exhibition of, xxii, 152.
Alma, The, xliii, 59.
Allen, T. R., Sanitary Responsibilities, ix, 259.
Allen, Nathan, xiii, 70; Law of Longevity, i, 481; Position of Woman, 271; College Sports, iii, 241; Vital Statistics, v, 241; Prevention of Disease, Crime and Pauperism, vi, 297; Education of Girls, vii, 385; Laws of Inheritance, viii, 385—xi, 353; Prevention of Insanity, ix, 102; Diffusion of Sanitary Knowledge, x, 405; Physiology, xiv, 24; xv, 351.
"Alliance," The, a Sickly Ship, Wise, xxx, 318.
Alligatorine, xxxi, 430.
Altitude, Doubtful Effects of for Consumptives, Maxwell, xxxviii, 316.
Altitude of Jerusalem, xxxiv, 378.
Altitudes, High, Influence of, Peculiar to, Upon Sanitary Conditions, Solly, xxxv, 504.
Altitudes, High, High Tension and, xl, 31.
Altitude and Heart Disease, Babcock, xliii, 27.
Altitude, The Blood Changes Induced by, Solly, xliii, 26.
Altitudes, High, The Hygiene of, xlv, 247.
Alimentation and Oxygenation, Reed, xxxii, 45.
Alaskan Natives, Muir, xxxix, 281.
Albumen in the Urine of Healthy Persons, xviii, 469.
Albuminuria, Prognosis of, xxxvii, 333.

Allison, James, Tenement Houses, xiv, 444; House Drainage, xvi, 422.
Almost a Perfect Climate, xxxiii, 186.
Alopecia, The Contagiousness of, xxi, 571.
Almshouses and Prisons, xi, 300.

ALMSHOUSES, THE SANITATION OF, Stephen Smith.—A comprehensive review of conditions based upon practical knowledge of grave defects with regard to locality, structure and equipment of permanent importance; and replete with suggestions for proper and adequate supplies and supervision, xviii, 485.
Alsdorf, J., Syphilis, xviii, 459.
Altitudes, High, on the Return of Tubercular Patients from, Knight, xxvi, 221.
Altitudes, Some of the Effects on Health, viii, 90.
Alvarango Prize, xxviii, 190.
Aluminum, How Made, xxxix, 478.
Ambler Institution Treatment of Tuberculosis, xxxix, 28.
Amende Honorable, xviii, 459.
America—American Life Illustrated, xxxvii, 91.
Americans and Their Civilization a Product of Climate, Young, viii, 240.
American Academy of Medicine, xi, 639; v, 429; xi, 609; xxvi, 371; xxviii, 571.
American Association for the Care of Inebriates, v, 429.
American College Association, vi, 330.
American Electro-Therapeutic Association, xxxvii, 192; xliii, 288.
American Invalid Aid Society, xxxii, 224.
American Climatological Association, xviii, 545; xvii, 124; xviii, 545; xix, 97; xxi, 65, 412; xxii, 548; xxiii, 70, 254, 305, 352; xxiv, 474; xxv, 251, 355, 401, 505; xxvi, 27, 132, 213, 306, 414, 570; xxvi, 92, 343, 433; xxx, 479; xxxi, 35; xxxii, 479; xxxiii, 43, 97, 193, 300; xxxv, 154, 255; xxxvi, 382; xxxix, 17; xli, 334; xlii, 478; xliii, 15; xliv, 544; xlv, 22; xlvi, 466; xlvii, 250.
American Gynecological Society, v, 325.
American International Congress of Medical Jurisprudence, xxii, 384.
American Medical Editors' Association, iv, 317; v, 329; vi, 330; xi, 233; xii, 156; xvii, 156; xviii, 555; xx, 362; xxi, 254; xxiii, 136; xxv, 94; xxvi, 550; xxxi, 129, 287, 380; xxxv, 43; xlvii, 159.

American Medical Association, i, 137; ii, 167; iii, 137; iv, 322; v, 322; vi, 324; vii, 256; viii, 137, 278, 294, 295; x, 625; xi, 398; xii, 560; xiv, 553; xvii, 56; xviii, 555; xx, 361, 534; xxi, 467; xxii, 383; xxiii, 71, 105, 173; xxiv, 556; xxxi, 264, 545; xxvii, 287; xxviii, 570; xxix, 175; xxxi, 107; xxxii, 480; xxxv, 43; xxxvi, 382; xxxviii, 480; xxxix, 189; xl, 383; xlii, 479; xliii, 75; xlv, 260; xlvi, 467.

American National Life & Trust Co., iii, 423.

American Sanitary Association, xxxii, 384; xxxiv, 480.

American Surgery and Hospitals, ii, 523.

American Watering Places, Henry Hartshorn, iv, 256.

American Medical Publishers' Association, xxxiv, 480; xxxv, 44; xxxvi, 383; xl, 384.

American Pediatric Association, xxxix, 384.

American Social Science Association, xxxvii, 191.

American Race, Asiatic Origin of, xli, 564.

American Congress of Tuberculosis, xliv, 384, 421, 496; xlvi, 465, 481; xlvii, 59.

American Public Health Association, i, 42, 88, 132—*faux pas* and reorganization, 407; ii, 427; iii, 381, 420, 425; iv, 509; v, 493; vi, 517, 564; vii, 1, 87, 529, 561; viii, 1, 473, 562; ix, 1, 14; x, 42, 109, 616, 673; xi, 45, 700, 720, 747, 753; xiii, 180, 275, 352, 450, 542; xiv, 183; xv, 560; xvi, 80, 476; xvii, 270, 334, 353; xix, 67, 385; xxi, 526, 537; xxii, 469; xxiii, 263, 361, 456; xxiv (Health Exhibition), 193; xxv, 185; xxvi, 3, 66; xxvii, 94, 480, 481, 500, 513; xxix, 286, 382, 477, 481; xxxi, 288, 431, 562; xxxiii, 190, 459, 531; xxiv, 23, 124, 200; xxxv, 411, 487; xxxvii, 340, 191; xxxix, 189, 375, 531; xli, 416, 495; xliii, 512, 530; xlv, 384, 481; xvli, 467; xlvii, 282, 437.

American Energy in Santiago, General Wood, xli, 475.

American, A Remarkable—Dr. William Pepper, xlvi, 286.

American Opportunities and Education, Malie, xlvii, 563.

Americanism, xliii, 188.

America's Success, The Foundation of, xxxv, 561.

Ames, Azel, Jr., Protection of School Children, iii, 45; Meat Food Supply of the Nation, xix, 430.

Amusing the Baby, iii, 202.

Ammonia, What It Can Do, xxv, 130.

Arny, H. V., Atmospheric Ozone, xlvi, 42.

Annato Paste, Parasites in, Schirmer, xxii, 544.

Anæsthetics and Heart Disease, iv, 95.

Anæsthetics, Local, in All Varieties of Minor Surgery, Green, xlvi, 344.
Anæsthetists, A Warning to, xxii, 96.
Anæsthesia, New Means of Producing, Langlois, xxxiii, 523.
Anæsthetic, A New, Champoniere, xxxv, 443.
Analysis of Soap, viii, 377; ix, 133.
Anders, H. S., Meteorological Conditions in Relation to Influenza, xliii, 32.
Ancestors and Ancestry, xl, 379.
Anderson, B. P., Intermediate Altitudes for Consumptives, xliii, 23.
Analyst, The, and His Deeds, xvii, 534.
Anders, J. M., Seasonal Influence in Erysipelas, xxxi, 37.
Anderson, E. H., Local Conditions and Yellow Fever, xxii, 214.
Anderson, E. H., Yellow Fever Observations, by an Octogenarian, xl, 156.
Anderson, Winslow, Infection by Books, xxii, 543.
Anderson, G., Six Minutes for Dinner, xxxii, 509.
Anderson, W. C., Defective Drainage, i, 553.
Anderson, W. S., The Study of Crime and Degeneration, xxxviii, 435.
Andersonville Prison, The Truth About the Overcrowding and Excessive Mortality, xxv, 133.
Andrews, J. B., Care of the Insane, xix, 252.
Aneurism, A Case of, xliii, 33.
Aneurism, La Denar, xlv, 1, 335.
Angell, E. C., Sunlight and Solarization, vi, 433; Inunction and Manipulation, 481; Hot-air, Electric and Roman Baths, 529; Alimentation in Health and Disease, vii, 49; Public Health Association, 126; Some Sanitary Attractions of Brooklyn, xxx, 392; Midwinter Inspection of Southern Sanitary Resorts, xxxii, 264; Massage and Its Adjuncts, xxxvi, 295.
Angell, G. T., Unwholesome Meat, ii, 265; Crime, iv, 82.
Angell, L., Impediments to Sanitary Progress, xv, 395.
Angina Pectoris, Curtin, *et al.*, xxxi, 35.
Angina Pectoris in Bright's Disease, Rondot, xxxvii, 329.
Animals, Poisoned, The Use of the Flesh of, xxvii, 162.
Animals Required for Food, Necessity for Inspection of, Horsch, xix, 430.
Animal Diseases and Animal Foods, Report on, xxxv, 414.
Animals' Instinct to Select Their Own Medicine, i, 108.
Animals, The Care of, xli, 477.

Animals, Cruelty to, xliv, 366.
Animal Diseases, Relation of to Public Health, Grout, xlvii, 310.
Animals, Humanity and Experiments on, xxxix, 346.
Animal Refuse of Large Cities, J. L. Storer, i, 204.
Animals, Diseases of in Germany and Italy, xlii, 533.
Animal Diseases, Report on, Salmon, xlv, 504.
Animal Diseases and Animal Food, Salmon, xlvi, 97.
Animal Vaccination, Pasteur, ix, 427.
Anglo-Saxon Race, The, The Future of, xlvi, 91.
Anglo-Swiss Milk Food, xii, 79; xiv, 380.
Anodyne, An Ideal, xlvii, 518.
Anthrax in New Jersey, xxxv, 278.
Antikamnia, xxviii, 66, 256; in Rheumatism and Gout, xxxi, 344; as a Sedative, xxxiv, 438; Innervation, xxxv, 73; as an Analgestic and Antipyretic, xxxvi, 528.
Antikamnia and Heroin Tablets, xlvii, 340.
Antiquity of Temperance Reforms, xlvii, 512.
Antifat Patient, xxxviii, 451.
Ants, Bees and Wasps, xxxix, 187.
Antitoxin, xxxv, 86, 349, 453; xxxvi, 160.
Antitoxin in Diphtheria, xxxiv, 243; xxxvi, 343; xl, 61; xlii, 156; xliii, 234.
Antitoxin Bill Defeated, xlii, 451.
Antitoxin, A New, xliii, 167.
Antitoxin, Preparation of in St. Louis, xlvii, 546.
Anti-Tuberculous Laws, xliii, 39.
Anti-Typhoid Serum, Chancellor, xxxvi, 385.
Anti-Ethyline, xliv, 235.
Anti-Tobacco Congress, xliv, 157.
Anti-Alcoholic Serum in France, xlv, 348.
Anti-Typhoid Inoculation, xlv, 264.
Anti-Malarial Plant, x, 108.
Anti-Phthisine, Denison, xxxv, 338.
Anti-Phthisine, Report of Commission on, xxxvi, 441.
Antipyrin, Anti-Bacterial Action of, xxii, 185; Uncertainty of, xxv, 89.
Antiquity, The Sublimest Poem of, xxviii, 568.
Antiseptics, A New Antiseptic, xii, 378.
Antiseptics, Inhalation of, Robinson, xv, 41.
Antiseptics, The Most Important, Baskan, xx, 530; Boric Acid as an Antiseptic and Analgesic, A New, Laudouski, xxxv, 70.
Antiseptic Clothing, Pietra Santa, xxxiv, 140.

Antiseptics in Obstetrical Practice, xxix, 156.
Antiseptics in Surgery, v, 40; vi, 140; (Fuller) xiii, 440; (Klein) xv, 306; xxi, 570; Comparative Efficacy of, xxii, 94; Oct-cyanide of Mercury as, 186; Incompatible, 379.
Anti-Smoking Law, xxv, 250.
Anti-Vaccinists, xvi, 343.
Anti-Vaccinists, Success of, xix, 315.
Anti-Vaccinists, Punishment of, xxxvi, 159.
Anti-Vaccinists, A Practical Lesson for, xlvi, 161.
Anti-Vaccination League, xl, 98.
Anything but Physic, xvi, 256.
Anxious, xxxv, 61.
Aorta, Aneurism of, Glasgow, xxxiii, 197.
Aphasia, Transient, xxxii, 371.
Aphthous Sore Mouth, xxviii, 455.
Apis for Pin-Worms, Rogers, xxviii, 549.
Apollinaris Water, viii, 104.
Apparel, Royal, xxx, 336.
Apollo Belvedere, A Mate to, xiv, 350.
Apothecaries, The, vi, 547.
Appendicitis, xxv, 191, 564.
Appendicitis of Multiple Origin, xxxv, 443.
Appendicitis, Reclus, xxxviii, 447.
Appendicitis in the Army, xlii, 526.
Appendicitis, Experimental. Dieulafoy, xxxvi, 344.
Appetite, The Functions of, Paulow, xlvii, 492.
Apples, iv, 540.
Apples in England, McFarland, xlvi, 532.
Aqueduct, Carthage, xxxv, 93.
Architecture, School, Mistakes in, Search, xvi, 509.
Arctic Explorers' Food, J. J. Turner, xii, 308.
Arctic Hygiene, J. J. Turner, ix, 241.
Archinard, Blood Serum Treatment of Yellow Fever, xliii, 241.
Are Canned Goods Fit to Eat? xli, 351.
Arey, C. O., Water Supply and Sewage, xxxviii, 126.
Argentine Republic and the Progress of Sanitation Therein, Corbally, xxi, 28.
Arason, Hans, Formaldehyde Gas Disinfection, xxxix, 498.
Arid Regions of the United States for the Tuberculous, Cobb, xliii, 501.
Aristol, xxv, 473; xxx, 536; in Psoriasis, xxxi, 550.
Arkansas State Board of Health, xlii, 87.

Armamentarium, Physicians and Their, Tanner, xxxix, 97.
Army Sanitarium at Fort Bayard, N. M., xliii, 368.
Army Ration, The, in the Tropics, Egan, xliv, 129.
Army, The Mortality Statistics of, xliv, 82.
Army, The Personal Character of, xlvi, 284.
Army, Health of, Pope, xv, 527.
Army, French, Physical Fitness for Service in, xxxiii, 36.
Army, The Health of, xvi, 3, 112, 227, 322, 449; xvii, 22, 215, 317, 416, 499; xviii, 13, 145, 402; xlvi, 272.
Army Hygiene, Chadwick, xi, 566.
Army Sanitation, Corbally, xiv, 301:
Army Medical Rank, xi, 86.
Army, Surgeon-General's Report, xiv, 73; xxviii, 163; xxxvi, 258; xxxvii, 536; xlii, 253; xliv, 260.
Army Medical School, xxxi, 179.
Army Sanitation in Argentine, xlii, 526.
Army Investigations, The, xli, 567.
Army Medical Supplies, xli, 279.
Army Sanitation, Dr. Carroll Dunham, xli, 474.
Army Sanitation in Cuba, xl, 164.
Army and Navy Medical Officers and Supplies, Bell, xli, 357.
Army, Our, Slausing, xliii, 91.
Armstrong, S. T., Maritime Sanitation, xvi, 234; Hygiene and Public Health, xxiii, 403; Sanitary Condition and Vital Statistics of Nuevitas and Puerto Principe, xlii, 393.
Arsenic in Animals, Normal Existence of, Gautier, xliv, 144.
Arsenic in Animals and in Food, Gautier, xliv. 533.
Arsenic, Iodide of, in Scrofulous Children, Rousseau, xl, 533.
Arsenic an Antidote for Thyroidian Extract, xli, 137.
Arteries, Cerebral, xxiii, 60.
Arrow Poison, Strophanthus, xliv, 239.
"As Bad as Cuba," xli, 272.
Arnold-Snow, Physical Culture, xlv, 419.
Art, Great Works of, Unearthed by Accident, xlii, 189.
Artesian Wells, Charleston, xii, 110.
Artesian Wells, New York, xiii, 59.
Artesian Well Water, viii, 566.
Arthritism in Infants, xlvi, 343.
Arthritic, Hygiene and Dietetics of the, xxviii, 238.
Artichokes, Poisoning from, xliii, 240.
Artificial Inguinal Hernia, xxxiii, 168.
Artificial Teeth, A New Danger of, xxxiv, 199.

Artists' Holiday, ii, 223.
Asbestos and Its Uses, xi, 746.
Ascaris Infection, Hygiene of, xxxviii, 441.
Asepsis, Operative, and Disinfection of the Hands, xlv, 248.
Ashmun, G. C., What Is Sanitation? xxii, 49.
Asphalt Lake, The Famous, xlvi, 288.
Arsenic, The Massachusetts Law on, xlv, 322.
Arsenic in Wallpapers, xxv, 36.
Ashmead, A. S., Propagation of Leprosy, xlvii, 506.
Asheville (N. C.) Water Supply, xxxix, 275.
Asphalt Drain and Soil Pipes, iv, 332.
Asphalt Pavements, vi, 178.
Association of Acting Assistant Surgeons, U. S. A., xxxii, 351.
Association of Military Surgeons, xxxii, 383; xxxiv, 488.
Association for Improving the Condition of the Poor, viii, 181.
Asylum Abuses, Letchworth, xvii, 414.
Asylums, County, Indiana, xiii, 154.
Asylum, The New York Infant, xi, 348, 699; Infected with Measles, Whooping Cough and Diphtheria, and How These Diseases Were Overcome, xi, 694; xiii, 481.
Atalantis, xxxiii, 215.
Athletics, A Healthy Development of, xxxv, 185.
Athletics Barred, xlv, 75.
Athletism and Longevity, xlvii, 151.
Athletics, College, Davis, xi, 266.
Atlee, W. L., Fashion and Its Penalties, iv, 160.
Auxiliary Sanitary Association, New Orleans, vii, 562; viii, 136.
Avena or Oaten Grits, iv, 45.
Avery, J., Contagious and Infectious Diseases, xiii, 56.
Art-Education of Women, vi, 177.
Arts of the Table, Meredith, xi, 356.
Artificial Feeding, Jerome Walker, i, 254, 402; ii, 16.
Artificial Versus Natural Mineral Waters, x, 364.
Atkins, F. H., New Mexico and Her Adjacent Plains, xxvi, 335.
Atkinson, W. B., The Infant Food Problem, xxi, 100.
Atkinson, Edward, Cellar or No Cellar, xxxi, 14.
Atlantic Coast Health Resorts, E. W. Bowditch, xi, 177, 202, 213.
Atmosphere of Houses, The Vitiation of, Gauthier, xlv, 299.
Atmosphere of House, or Artificial Climate, Boyce, xix, 231.
"Atmosphere Purifier," xviii, 572.
Atmosphere, Testing the Purity of the, Wolfert, xi, 600.
Atmosphere, Marine, Influence of on Certain Diseases, xxv, 471.

Atmosphere, Dry, Effects of, Chronic Inflammation of the Larynx and Nares, Ingals, xxvi, 414.
Atmosphere Infected, xxxvii, 48.
Atmospheric Hypothesis of Epidemics, xxviii, 549.
Atmospheric Ozone, Arny, xlvi, 42.
Atrophy of the Foot in Coxalgia, xxxiv, 360.
Atwater, W. O., Foods: Nutritive Value and Costs, xxxvi, 193, 313.
Atwater, W. O., Nutritive Qualities of Alcohol, xliii, 73.
Aulde, John, Diet for Health, xxxiv, 118.
Auntie Septic, L. D. W., xxxiv, 407.
Auscultation in Pleurisy, Hewariet, xxxvii, 329.
Austin, A., Victoria, the Good, xxxix, 89.
Automobile, The Humane, xlvi, 38.
Average Duration of Life Among Physicians, xxxiv, 548.
Avoidance of Stimulants, xlvii, 495.

PAMPHLETS, REPRINTS, REPORTS, ETC., RECEIVED.

Morbus Cærulens, A case of (probably due to a dust powder containing acetanilid). S. E. Earp, M. S., M. D., Indianapolis, Ind.

Some Phases of the Tuberculosis Problem in Colorado. S. G. Bonny, A. M., M. D., Denver, Col.

Thoughts on the Ethics of Medical Journalism. Burnside Foster, M. D., St. Paul, Minn.

Viability of the Bacillus Pestes. M. J. Rosenau, P. A. Surgeon, Director Hygiene Laboratory, U. S. Marine Hospital Service, Washington, D. C.

Jefferson Medical College Announcement, 1901-1902.

Treatment of Trachoma, Report on Different Operations for. P. Charles Jameson, M. D., Brooklyn, N. Y.

The New Era in Medical Education: Plan of New Medical Laboratory, University of Pennsylvania, Philadelphia.

Study of Man. Arthur MacDonald, Specialist in the United States Bureau of Education, Washington, D. C.

Susceptibility to Disease and Physical Development in College Women. Ibid.

Systolic Mitral Murmurs: Their Transmissions, with Special Reference to the Nature of the Anemic Murmurs. Horace D. Arnold, M. D., Boston, Mass.

Weight of the Normal Heart in Adults. Ibid.

THE SANITARIAN.

FEBRUARY, 1902.

NUMBER 387.

COSMOPOLITAN HEALTH STUDIES.*

By F. L. OSWALD, M. D.,
Author of "Physical Education," "The Remedies of Nature," Etc.

V.—RUSSIA.

The low death-rate of the Netherlands has been called a "triumph of cleanliness *vs.* Schiedam schnapps," and Russian longevity should be recognized as a triumph of the Frost Cure *vs.* uncleanliness and intemperance combined.

In the climate of northern Russia the survival of an unkempt *vodka*-tippler does not disprove the importance of sanitation. For frost itself is an expurgative process, and the experience of its benefits is, often as it were, an involuntary state of cleanliness.

Bedrooms, whose owners would stubbornly object to direct ventilation, are disinfected by blizzards that penetrate walls and window-glass, and destroy or lethargize myriads of microbes, in spite of all preventive contrivances.

But the same germ-killer may be systematically invoked, and the merit of the long-lived Muscovite consists in his cold-weather heroism. With all his indifference to other sanitary precautions, he courts health by a deliberate and ostentatious defiance of many western frost prejudices. Bathers step from the hot steam of a hypocaust to roll in a snowbank; travelers use handsful of snow to stimulate the circulation of their half-congealed faces; Russian officers, with the full approval of their military surgeons, let their men bivouac in snow-storms; Russian aristocrats vie in driving their sleighs at steeplechase speed in the teeth of a north gale, and would not have been afraid to lodge in the ice-palace of Czarina Elizabeth.

"There is a vein of maudlin sentimentality under the shaggy hide of a mujik," says the traveler Kohl; "he will become lachrymose in enumerating the virtues of a lost relative, and expatiates

* Continued from Vol. 47; page 237.

pathetically upon his personal wrongs at the hands of despotic officials, but makes amends by his stoical endurance of climatic vicissitudes. Recruits, whimpering under the hardships of a winter march, are promptly bantered into silence; their comrades appear to consider thermal hardiness (Abhaertung) a national prestige that must be maintained at all risks."

The everlasting wars of aggression upon neighboring frostlands may likewise have had a tendency to improve the race by a process of more or less natural selection; the winter storms of such countries as Turkestan were more formidable than the weapons of the semi-barbarous natives, and in the course of a protracted campaign weaklings were thus weeded out, while in ordinary warfare the Valkyries, like the Mussulman Death Angel of Battlefield, manifest a fatal predilection for heroes.

Mikael Bakunin, the Russian Mirabeau, indeed, remarks that his countrymen got physically ahead of the formerly superior Swedes, because Sweden stopped fighting and Russia didn't; but adds that the remarkable vigor of the mujiks (the poorer class of Russian peasants) admits of an entirely different explanation. "Their lusty health and equally blooming ignorance," he says, "are both due to the fact that, during the long era of serfdom, they were at the mercy of masters who had a personal interest in promoting their physical and preventing their mental development. They kept their serfs away from school, but also from *vodka* shops, and if, as might happen, the real-estate magnate's egotism was tempered by good nature, he did not grudge his two-legged cattle an abundant supply of wholesome fodder, and, with the co-operation of a healthy climate, the result was what we see in the examining room of every Russian recruiting office: men who could conquer the world by sheer strength of muscle, if the predicted international war should break out before they have had time to fuddle themselves down."

The passion for strong drink has certainly infected an enormous part of the great Slavonic family of nations, and but for the favor of a dry-cold climate, would have undermined the stamina of a race fighting the battle for survival against an ugly assortment of germ-diseases. For nothing seen in our factory slums or negro cabins can give a conception of the atmospheric filth reeking in Muscovite boor-hovels, the year round.

Nose-witnesses agree that it makes the shelter-seeking foreigner recoil as he would recoil from the vilest fumes of a chemical laboratory. A brick stove diffuses a heat, varying from sixty to ninety

degrees Fahrenheit, and its odor of smouldering turf mingles with the smell of fermenting cabbage barrels, stuffy bedding, steaming wash, tobacco smoke, and some twenty varieties of animal effluvia. There are kittens and pups in the room, if not pigs, à la Connaught; babies in self-drying dresses crawl about the floor; there is cooking and frying going on, and in the evening rain-soaked rustics clamber upon the platform of the large brick stove and try to make themselves comfortable without taking off their socks and underclothing.

The small windows are nailed down, and, to prevent ventilation more effectually, the door is protected by a vestibule, used for the storage of turf and old krout barrels.

In midsummer wash is dried in the open air, but the turf fire of the big stove is kept up, and the windows are still kept down.

That the graduates of such microbe seminaries are enabled by winter excursions to hold their own at the head of the world's physical development class, proves—well, it certainly justifies Dr. Hufeland's remark that, if the human race were given the benefit of half the sanitary care we bestow on our cattle, the sons of Anak would not have become extinct, nor the race of the long-lived patriarchs.

For Russian air-poisons are not limited to the cabins of the rural districts; millions of city dwellers lose by domestic misarrangements what they gain by outdoor sports; the sanitation of military barracks is bad, and that of military transport trains worse. The coaches for the rank and file are mere boxcars, with triple rows of benches, perhaps a stove in the center, but only pails where there ought to be closets; unhoistable windows, doors rarely opened, and a reckless abuse of the smoking privilege. Superheated, nauseous, almost suffocating, the trundling reproduction of the Calcutta Black Hole crosses the wide steppes and interminable stretches of straggling fir woods, and finally rolls into some city of rectangular stone buildings, gilt railings, signal lights and electric radiators piercing the night mist; barbarism and glittering culture in strange contrast.

The prisons are even worse, and Stepniak's revelations have led only to partial reforms; there are penitentiaries, nay, houses of detention, that breed contagious diseases as systematically as the Ghettos where mediæval bigots confined Jews and Moors, till raging epidemics proved the solidarity of human interests by attacking the oppressed and oppressors alike.

Russia enjoys the unenviable distinction of being the seed-plot

of two international plagues: the Grippe and the Rinderpest, the former a product of the northern cities, the other of the more southern steppes, where lack of wood often induces stock farmers to winter-quarter their cattle in dugouts, that hatch lung microbes like the underground stables of our old-time metropolitan horse-car companies.

And the interest of Russian hygiene, even from a non-altruistic point of view, is suggested by the curious fact that both the epidemics named attack foreigners and their cattle often more virulently than their originators. There seems no fairness about that arrangement, but Captain Cook already noticed something of that sort when a delegation of South Sea Islanders danced upon his deck and were induced to visit the cockpit, with the result that most of them were, the next day, on the sick-list, with a complaint resembling an acute inflammation of the lungs. Vitiated-air microbes had fastened upon their unprepared organism, while in that of the sailors' habit had established what pathologists call a "state of tolerance."

Schoolrooms, too, mediate the distribution of disease germs. The Grippe and certain skin diseases have been known to spread from an infected city school to adjoining buildings, and then all over town, and, finally, to neighboring cities.

It would, however, be unfair to ignore the fact that the labors of Russian health bureaus are grievously complicated by the prejudices of the masses and by the prevalence of bribery. In Bombay British inspectors were mobbed for trying to fumigate bubonic plague dens, and a Hindoo's dread of innovation is almost equaled by that of the Muscovite slum-dweller. Russian hoodlums may not oppose sanitation by acts of physical violence, but they will prevaricate like Kansas stimulant peddlers to conceal the malignity or the very existence of contagious disorders. With the assistance of sympathizing neighbors, they will try to hide a measles-stricken youngster, and, as a last expedient, attempt bribery, in reliance on the fact that Russian deputy health inspectors are as poorly paid as their fellow *tschinovniks*. Financial straits leave the municipal governments little choice in such matters; owing to the progress of forest destruction, failures of crops have become very frequent, and after deducting the appropriations for espionage and improved patterns of manslaughter machinery, there is not much left for other reforms.

The regulations of the land quarantine are almost equally hard to enforce. General Kauffmann, a few years ago, lined the Per-

sian border with a sanitary cordon of double picket posts, but could not prevent blockade running till he instructed the sentries to fire slugs at the legs of tresspassers failing to stop at the second challenge.

As a rule the death-rate of the regular army decreases with every mile farther southeast; i. e., becomes remarkably low in the military colonies of the Armenian border, and attains its maximum in the crowded Polish garrison towns.

About the end of the seventies Charles Darwin induced a British scientific society to print several thousand circulars for the purpose of settling certain questions as to the physical characteristics of yellow-fever immunes: Were dark-haired men more exempt than fair-haired ones? Thin, wiry individuals more than heavyweights?

Only a few dozen replies were received; but, with a better chance of success, some philanthropist should try to ascertain the comparative influence of foul air and cold air, as factors of pulmonary diseases. On the Galician border alone thousands of Russian soldiers are kept, the year round, in "camps of observation," fed and clothed like their comrades in city barracks, but sleeping in tents and getting a more than usual share of outdoor exercise. They are not picked men, but drafted from the neighboring garrison towns, and only rarely from the *elite* regiments. If, nevertheless, the catarrh and consumption rate of such camps were to prove invariably and enormously much lower than that of the well-warmed barracks, should not the secret of life's deadliest foe be considered as thus definitely solved?

The Russian—especially the native-born—military surgeons would, at all events, answer inquiries with the courtesy characterizing savants in all countries of recently emerged culture, whose representatives, as Baker Pasha expressed it, are not apt to neglect an opportunity for demonstrating their citizenship in the commonwealth of science.

The Russian commissariat would seem to have anticipated the German plan of feeding soldiers on less meat and more saccharine substances. Lumps of brown sugar were issued as early as 1892 in quantities exceeding the needs of tea-drinkers; dried fruit is distributed wherever it can be procured at low rates, but vegetable oils, to a large extent, take the place of meat. The farinaceous part of the menu is still what it was in the times of Peter the Great: navy biscuit, or coarse, black rye bread.

On those cheap dietetic terms and less than five cents a day in

coin, about 875,000 regulars are kept in a state of high martial efficiency, inured to extraordinary fatigues, and to almost all climatic hardships of an empire larger than all the States and Territories of our republic taken together.

In Baku, on the shores of the Caspian, it rarely rains, and the heat becomes semi-tropical before the end of April, at a time of the year when the sentries of some garrison towns on Lake Baikal still trudge in narrow trails between shoulder-high walls of snow and have to protect their hands with triple woolen mittens.

In a world realm of that kind, frequently transferred officers, like those of the Roman empire, become cosmopolitan, or at least eclectic, and, after smelling the horrors of a Chinese slum tenement, feel disposed to fraternize with a tribe of Turkestan herders.

> "Als Knabe, durch die Berge schweifend,
> Entdeckte ich das Paradies,"

—in their campaigns through the wilds of two continents, the inveterate land-grabbers happened to stumble upon the earthly paradise, and grab it, too: The grand natural sanitarium known as the Caucasus, with its forests and aborigines of primeval beauty.

The great mountain range is beginning to get studded with health resorts. There are at least twenty of them near Tiflis, and about a dozen south of Ekaterinograd, in the valley of the Terek. Landscapes painted for stereopticon views in the vicinity of Paetigorsk may one day give America a conception of the Edens lost by forest destruction in the shorelands of the Mediterranean, and specimens of native Circassians ought to be exhibited to illustrate the sanitary influence of outdoor life in a land of forests and mountains.

For those paragons of beauty and vigor are not Caucasians in the ethnological sense, but Turanians, Mongols, in fact, and cousins of the Chinese caricatures of God's earthly image. To complete the object lesson, the exhibitor ought to procure at least a photograph of the opposite type from the Caucasian side of the border. Outdoor life, athletic sports, and the health precepts of his creed have raised the eagle-nosed and eagled-eyed Circassian hunter from Calmuck bestialism to superlative manhood, while indolence, alcohol, and antinaturalism have degraded the bottle-nosed and blear-eyed, but undoubtedly "Caucasian" Greek prior from the demigod status of his ancestors to something between a Calmuck and a Chacma baboon. Phenomena of that kind can be studied gratis in the Czar's dominion of 7,350,000 square miles, and their

significance does not seem to have been thrown away on such observers as General Skobeleff.

(*To be continued.*)

RESISTANCE OF LIVING ORGANISMS TO COLD.

The living body, animal or vegetable, does not freeze as easily as inanimate matter. This is even more true of bacilli and of other microscopic organisms than of the higher orders of life. The resistance has been found to reside in the living cell itself, and to be a consequence of the high pressure in which the cell-liquids are maintained. This discovery has been announced by M. d'Arsonval, the French expert in physiological physics, in a paper read before the Paris Academy of Sciences on July 8th last. The following abstract is translated from "La Nature" (July 13th): "It is well known that the inferior organisms can bear a very considerable lowering of temperature without losing their vital properties. Thus, for instance, the yeast organism, when brought into contact with liquid air, does not lose its power of producing saccharine fermentation, although this power is lessened after a certain time. It is the same with disease germs. Thus the pyocyanic bacillus resists the action of liquid air for a very long time. It is influenced only in its chromogenic powers; that is, it secretes no more coloring matter, and does not regain this property. Organic substances resist the action of cold to an unequal degree. Osmotic pressure in the interior of the cells is the cause of this resistance, and it is larger as the cells are smaller. This tension may attain several hundred atmospheres. Under the influence of pressure water can remain liquid at a very low temperature. Consequently, if we can diminish the osmotic pressure in the interior of the cells, these ought, at a given moment, to burst by reason of the freezing of their liquid. To reduce this tension they may be plunged into a liquid that is not 'isotonic'; for instance, in the case of beer-yeast, a ten-per-cent. solution of salt. Yeast thus treated preserves its vitality, but if subjected to the action of great cold it then loses its power of producing fermentation." In another report of M. d'Arsonval's paper, given in "Cosmos," it is stated that "the liquid in a living cell is in the same physical condition as the water contained under high pressure in steel blocks in the experiment of Mousson and Amagat. It is not astonishing, under these circumstances, that it cannot freeze."—"The Literary Digest."

SOME UNSOLVED PROBLEMS IN TENEMENT-HOUSE LIFE.*

By S. A. KNOPF, M. D.

Mr. Chairman, Ladies and Gentlemen:

A new era has dawned on our beloved city and on our tenement-house population. Greater New York, for the first time in its history, has a single Tenement-house Commissioner. Mr. Robert W. de Forest, who has done so much for the improvement of the condition of the tenement dwellers by his previous work, has, with a rare self-abnegation, accepted the position tendered him by His Honor the Mayor. Let us rejoice at this appointment of ideal excellence, and let us also be grateful that Mr. de Forest has for his lieutenant our esteemed friend and indefatigable worker in tenement-house reform, Mr. Lawrence Veiller.

Thanks to the labors of the Tenement-house Commission, which was appointed by our honored President when still Governor of New York, and thanks to our present tenement-house laws which this Commission has promulgated, Mr. de Forest and his staff will be able to see to it that our tenement-house dwellers shall have safe and sanitary habitations. Rooms without light and air will be a thing of the past; houses with insufficient and dilapidated fire-escapes will no longer be tolerated. A pure atmosphere in every respect will prevail in these homes for toilers. But there still remain a few problems of the tenement-house question unsolved. They are such that the Commissioner cannot reach them, and are, in reality, beyond his province. They must be solved by private enterprise and by personal work, such as you, charity workers and friendly visitors of the poor, are doing daily. You must, however, also be helped in these labors of love by large and generous philanthropy on the part of the well-to-do.

These unsolved problems are, first, ignorance concerning personal hygiene, food and cooking; second, alcoholism; third, tuberculosis; fourth, the inability of laborers to get along with their earnings.

In a short address like this I can, of course, not go into the details of personal hygiene, and can only point out to you some of

* Address delivered by invitation before the Second Public Conference of the Friendly Visitors of the Brooklyn Bureau of Charities, at the Church of the Messiah, Brooklyn, N. Y., Jan. 13, 1902.

the essentials which the majority of the tenement-house dwellers do not know, or think they need not know, nor practice. There is, first, the question of baths. Many people, having no bath-rooms, think they do not need to take baths; particularly are they opposed to taking cold douches, which are so essential to good health. Let me give you a few details of the procedures to accustom people to the use of cold water when they are afraid of it. Tell them to be rubbed off, or to rub themselves off, for a few days with pure alcohol all over the body. For the next few days to take half alcohol and half water, instead of pure alcohol; and lastly, to use cold water alone. After having become thoroughly accustomed to the friction by hand with cold water, let them gradually commence with a sponge bath, later the ablution, and lastly the douche. By this education of the skin and the nervous system there is nothing to be feared from the shock which cold water may produce. It is well to tell people not to take their douches in cold, chilly rooms, and always to follow the cold douche either by exercise or a return to the warm bed, if the douche is taken in the morning.

When ordering baths to the tenement-house population it is not unusual to be told that there is no bathroom. You must then assure these people that by buying an English bath-tub, about a foot deep and three feet in diameter, one can, with the help of a few pitchersful of water poured over the shoulders of the individual, improvise a very effective douche. By the use of a watering pot, with sprinkler, an almost perfect needle-bath can be improvised. Besides these daily douches one should recommend a weekly warm bath with soap, to be taken either in a public bath house, in their own bathrooms, or with the aid of a tub. These warm baths should be followed by a cold douche or a rapid cold sponging off. The use of water, cold and warm, in this way, will not only strengthen and improve the general condition of the tenement dweller, but will also prevent him from becoming susceptible to the various infectious and debilitating diseases.

Concerning dress, there is one habit which I have found prevalent among our tenement-house population and also among some more well-to-do people; that is the habit of sleeping with underwear which is never taken off until the end of the week, and sometimes not even then. Now, there is nothing more unhygienic and nothing more productive of skin diseases, so frequent among the poor, than just such habits. The healthiest way is, of course, to sleep in a muslin night-shirt, which should be well aired during

the daytime. Some people, however, claim to be cold unless they wear undergarments at night. To these one must recommend to have two sets of underwear, one to wear at night and the other during the daytime.

Another defect in personal hygiene is the common use of one towel for the whole family. This habit is particularly to be regretted, since it is known to all medical men of experience that a number of diseases have been transmitted through the medium of a towel. One cannot insist too much upon this point, and recommend that every member of the family should have his own towel and tooth-brush.

Of dress in general I have little to say, except to urge upon you women, who work among your sisters of the tenement, to teach by example and practice that a short skirt is more convenient than a long one; that a comfortable waist to which the skirts are attached is more hygienic than that little instrument of torture called the corset and half a dozen skirts tied tightly around the waist.

The children of the poor who are not kept clean and not taught cleanly habits at home must be educated to the love of cleanliness in schools, public kindergartens, settlements, etc. Whether you can induce the men not to impoverish the atmosphere of their little homes by the use of tobacco indoors will largely depend upon your tact, as well as upon the individual you have to deal with. Men are sometimes selfish and think that in their own homes they can do as they please, and chew and smoke to their hearts' content, without regard to the health of their wives and children.

In the equipment of the rooms of the tenement dwellers there is, of course, a great diversity. I have seen the most tidy, cleanly and hygienic arrangements in the dwellings of the poor, but on the other hand, misery and indifference have often created conditions in such rooms that made them scarcely resemble habitations of human beings. You have seen them as well as I. One is sometimes amazed at the accumulation of dirt and filth, and is often tempted to call in the Health Department to disinfect and fumigate at once. The first thing these people must be taught is love of fresh air, and that it is as essential to air the bed clothes as their own persons. If carpets are nailed down on the floor tell them to take them up and clean the floor with a moist rag. Urge them never to use carpets again, but to content themselves with rugs if they wish to have something on the floor. These people must be impressed with the idea that all accumulation of dirt and filth breeds disease.

Before leaving the subject of the interior arrangement of the tenement home, permit me to draw your attention to another feature; namely, the habit of several people sleeping in one bed. I have known of instances where four or five persons have slept in one so-called large bed. Leaving aside all moral considerations, this is unhygienic from every point of view. One should encourage these people to use single beds or cots, and if possible to give every member of the family his own bed.

The question of food is most serious among the tenement dwellers, yet it would be wrong to say that want of money is always the cause of mal-nutrition among this class of people. Permit me to say here what I have said on a previous occasion, that I know there is more waste in the households among some of the poor families than in the well-to-do. This waste is due to the ignorance of the poor woman who does not know how to cook and economize. To make a good, plain, healthy and tasteful meal with relatively little expense is an art which must be taught to the young woman leaving the factory or the position in the store to enter upon the duties of a housewife. Here is a field for noble-minded and experienced women who have made the art of cooking a study. By imparting their experience to their less fortunate sisters they will make a new household lastingly happy. I am convinced that badly cooked food, unappetizingly served, is in many cases an inducement for the laboring man to leave his home and seek compensation in drink. If, instead of a plate of good, warm soup, well-steamed vegetables, and appetizingly prepared meat, some cold product from the delicatessen store is placed before him after a day of hard labor, it is natural that he should feel the need of stimulation, which he seeks in the saloon.

The subject of alcoholism is most important. Fanatical reform movements will never be able to combat this evil. Education and example will certainly accomplish more. From early childhood the dangers of intemperance and its fearful consequences should be taught. In schools and at home the drunkard should be pictured as the most unhappy of mortals. While the very moderate use of feeble alcoholic drinks, such as light beers, may be considered as harmless to adults when taken with their meals, alcohol should never be given to children, even in the smallest quantities.

In families in which there is a fear of hereditary transmission of the desire for strong drink, even the mildest alcoholic drinks should be avoided. It would also be best if all people so predisposed, or who may have acquired only the occasional desire for

drink, would never smoke, for experience has taught that attacks of dipsomania (periodical sprees) are often caused by an excessive use of tobacco. The young man starting out in life should take with him the moral training which will enable him to be a gentleman, and be considered a polite gentleman, though he absolutely refuse to ever enter a liquor saloon in order to treat or be treated to drink. It is this treating habit, alas! so prevalent in our American society, which has ruined many a young man and made him a moral and physical wreck. The creation of tea and coffee houses, where warm, non-alcoholic drinks, including bouillon, are sold in winter, and cool ones in summer, is to be encouraged. It would be of additional advantage if some of these houses would also offer healthful amusements for young and old. Temperance societies, which, through intelligent propaganda, help to combat the fearful evil of alcoholism, should receive encouragement from everybody. Do what you can, ladies, in working against this curse of our country, in this and similar ways.

Alcoholism leads us to tuberculosis, for I do not believe that there is a more potent factor in the production of consumption than alcoholism. The children of alcoholics are very often doomed to tuberculosis, and if they have inherited in addition the love for strong liquor their lives are doomed. In one of the French sanatoria for tuberculous and scrofulous children, where it was my privilege to work for some time as assistant physician, the statistics showed that of the little inmates about 25 per cent. had alcoholic parents. Other recently published French statistics show that where the annual consumption of alcohol per head is six pints, only 30 to 40 in 10,000 inhabitants die from tuberculosis, but in localities where the people consume 25 pints per head per year, more than 90 out of every 10,000 inhabitants die from this disease. The excessive use of alcohol undermines the constitution and thus prepares the field for the invasion of the tubercle bacilli. The drunkard, when married, will spend more money for liquor than he will give to his family for food. Thus wife and children will be underfed and become subject to that disease which singles out the weaklings, the debilitated, and the badly nourished.

Consumption is a communicable, preventable, and curable affliction. There has been of late much discussion because of the declaration of the Treasury Department that tuberculosis is a "dangerous, contagious" disease. As a consequence of this decision all visitors and immigrants, rich and poor, afflicted with tuberculosis, must be excluded from this country. Prominent physicians, such

as Professors Prudden, Biggs, and Janeway, of our city, have declared this action not based on scientific principles, and Dr. Biggs pronounced it unwise, unjust and inhumane. I heartily indorse the opinion of my eminent friend, and have expressed my views on this subject in a recent paper read at the Academy of Medicine, entitled "Public and Private Phthisiophobia," that is to say, exaggerated fear of the vicinity of consumptives. In a lay audience it is essential to avoid medical terms which may lead to a misunderstanding. Permit me, therefore, to give you a definition of what is meant by the terms communicable and contagious. The great danger from infection in tuberculosis lies in the indiscriminate deposit of sputum containing the bacilli, which, when dry and pulverized, may be inhaled by susceptible individuals and then cause the disease to be developed. The communication of the germ of tuberculosis is, however, less obscure to us in its process and far more easily guarded against than the contagion arising from such maladies as diphtheria, scarlet fever, small-pox, or yellow fever. To be in contact with a consumptive who takes care of his expectoration and other secretions which may contain the bacilli is not dangerous. This cannot be said of small-pox or yellow fever. Herein lies the difference between communicable and contagious.

What can you, friendly visitors and charity workers, do toward helping to solve the tuberculosis problem? The first thing that I would advise you to do is to protect yourself, not by becoming a phthisiophobic, that is to say, afraid to go near a consumptive, but by making yourself strong and vigorous, so that, if you do happen to inhale a few bacilli, they may not do you harm. For you must know that the nasal secretions, as well as the blood, are bactericidal; that is to say, certain cells contained in the healthy blood and healthy nasal secretions are stronger than the little bacilli, and do away with them by simply swallowing them. The scientific name for this process of destruction of the germs is phagocytosis.

Having kept yourself strong and vigorous, what can you do in your work among the tuberculous in the tenement-house districts? You should first make yourself acquainted with the two sources of infection; the one coming from the dried tuberculous expectoration has already been mentioned, and the remedy is the use of well-kept spittoons and pocket flasks, and the strict order to the patient never to expectorate anywhere but in those vessels. This, you must tell him, he has to do as much for his own protection as for the protection of others. You must tell him that if he should re-inhale the pulverized dust of his expectoration he would re-

infect himself and make his condition more serious. Tell him also that he must always have two handkerchiefs with him, one to use to wipe his mouth after expectorating, and the other for his nose. Kissing on the mouth should be discouraged in a family where there is a consumptive. If the patient is helpless, so that he cannot use either his pocket flask or the ordinary spittoon, moist rags should be near his bed and used to receive the expectoration. They should be burned before they have a chance to dry. Tell the people who attend to the cleaning of the spittoons to be careful if they have any scratches on their hands, not to soil them with matter from the spittoon. They should be particularly careful with nicked glass or porcelain spittoons. If one has been unfortunate enough to receive an injury, and tuberculous inoculation is feared, the best thing to do is to let the wound bleed freely, wash it thoroughly with water that has been boiled, with a five-per-cent. solution of carbolic acid, or with pure alcohol; dress the wound with a clean rag dipped in any of these liquids, and seek as soon as possible the advice of the physician.

There is one source of infection little known which you, visitors of the tenement houses, should be acquainted with. This is what we call drop infection. During the so-called dry cough, excited speaking or sneezing, small particles of saliva are expelled from the mouth and nose which may contain the bacilli. At a distance of three feet these drops fall to the ground. To guard against the danger of this sort of infection you should not approach the patient unnecessarily near for any length of time, and you should always insist that the patient hold a handkerchief before his mouth while he coughs. Incidentally, I should also like to mention that the so-called dry cough is, with a great many people, a matter of habit. They have a slight tickling sensation in the throat, and in order to relieve it, cough and make the irritation worse. Discipline in such cases has often cured the cough.

While there is absolutely little danger of infection from tuberculous meat, since diseased meat is destroyed under the direction of the inspectors of our slaughter houses, there is danger from tuberculous milk, and you should advise mothers in the tenements to boil or sterilize all milk before giving it to the children.

With this knowledge of the prevention of tuberculosis, what can you do toward its cure? The ideal solution of this problem would be that at the moment you discover a tuberculous man, woman, or child in the tenement districts you should be able to recommend the immediate removal to a sanatorium, where the patient has the

best possible chance of becoming cured. Even the best-kept tenement home is not a good place for a consumptive, and if the home of such an unfortunate one is ill-kept, badly ventilated, dark and dreary, it is the saddest place to be. Deprived not only of the many hygienic and dietetic agents whereby we nowadays treat and cure this class of patients, but lacking, perhaps, the very essentials to sustain life, the poor consumptive of the tenement is doomed to a certain and lingering death.

You must interest all your friends who can and are willing to help to assist our State and city authorities to create a sufficient number of sanatoria for the consumptive poor adults, and enough seaside sanatoria for tuberculous and scrofulous children.

In the meantime, when you visit a consumptive, besides inaugurating the above-mentioned preventive measures, impress upon the patient, his family and friends, that fresh, pure air all the time is almost a specific for the disease. To keep the window open twenty-four hours of the day, winter and summer, rain or shine, is the first requisite for a consumptive. The next thing you must do after your visit is to get a doctor, if the patient has not yet a medical attendant. Then combine your forces with the doctor and see what you can do in the providing of good food and in arranging, as far as possible, a sanatorium treatment at home. More you cannot do, except, perhaps, to ask the doctor if he would not be good enough to examine occasionally, also, the other members of the family, to determine whether some infection has taken place. By the discovery of an early case and the immediate inauguration of treatment, you may be sure to have saved at least one life, if you have been called too late to save the other.

We have spoken of ignorance concerning personal hygiene, food and cooking; we have mentioned alcoholism and tuberculosis; it remains now for us to say a few words on that other problem of the tenement dweller, inability of the many to get along with their earnings. Besides alcoholism and disease, which make the poor very much poorer, there is often the expense of rent, which takes far too great a portion of the earnings of the laborer.

This problem, ladies and gentlemen, you will probably not be able to solve alone. It is a social problem, and we can only partially solve it by appealing to our generous fellow-citizens who have given millions for churches, colleges, libraries, to help us now to get enough model tenement houses where the average wage-earner may for a modest sum have a cheery, healthy home. Rents are too high in our cities. The poor pay relatively higher rent

than the wealthy. Let our great lovers of mankind direct their gifts in this direction. Let them create pleasant, cheery, and healthy homes for laborers' families, at reasonable rents. There will be, as a consequence, less misery, less crime, less disease, and our tenement-house problem will be ultimately solved in all its aspects.

NEW PLAN FOR VENTILATION.

PROFESSOR S. HOMER WOODBRIDGE, of the Massachusetts Institute of Technology, who has recently had charge of the ventilation of the Capitol at Washington, has prepared a general statement (Brooklyn "Eagle") of the problem of properly ventilating theatres, churches and audience halls, which is of very general interest, since, although the buildings in which he has made his experiments are mainly in Boston, yet the conditions in that city are practically duplicated to a greater or less extent, according to size, in every other city in the country.

The importance of the subject will be realized by any one who has sat in a crowded auditorium, coming in from the fresh air out of doors only to go home, however entertaining the performance or eloquent the speaker, with a headache or sensation of heaviness arising from the impure air, or with a cold, or worse, from the draftiness caused by an unscientific method of ventilation. Professor Woodbridge points out that in residences, offices, shops, and the like, the air space to each occupant varies from 5,000 cubic feet, say, down to 500; while in auditoriums the individual space is only 500 as a maximum, and often sinks to as low as 50. In the auditorium, therefore, special methods of ventilation are an absolute necessity, but the sort of ventilation that the contractor or architect provides is often as dangerous, one may almost say, as no ventilation at all.

Yet the principles on which correct ventilation depends, although so seldom fully recognized, are simple enough when once stated. For example, it is obvious that the smaller the space through which a volume of ventilating air is to move, the more rapid its motion must become—which accounts for one of the more important difficulties of auditorium ventilation. And the movement of ventilating air becomes sensible, it is obvious again, in a ratio corresponding with its velocity or with the drop in temperature which it causes, or with both.

Obviously, too, the aim of the ventilating engineer should be to furnish a maximum in the air quantity with a minimum in draft effect. Usually he has gone about his task by what appeared, on first examination of the problem, to be the easiest and simplest way, though in the end either wholly or partly ineffective. That is, he has introduced his fresh air at the ceiling of the auditorium, as being removed farthest from his audience, his flow of air extending thence downward in an area which might be likened in shape to a huge tent covering the floor of the theatre or audience hall, the overplus of air escaping, that is, at vents scattered equally over the floor.

The method looks reasonable enough at first, but it is essentially faulty. For instance, it ignores the influence of the audience itself, each member of which may be compared to a big lighted candle, contributing to heat the surrounding air. Thus Professor Woodbridge states that if through a theatre seating 2,500, 40,000 cubic feet of air an hour are passed, the ultimate rise of temperature from this aggregate human heat may be safely estimated as 11 or 12 degrees Fahrenheit. It is clear enough, then, that the cooler air entering at the top of the theatre, with the humanly overheated air at the bottom of the room, will create a state of unstable equilibrium, and that by an immutable law the cooler air at the top must fall, while the warmer and lighter air at the bottom must rise. The result will be drafts, fitful or steady, as the case may be. And the higher the ceiling—the place, that is, which has been selected as being most remote from the audience, and therefore the most unlikely to produce drafts—the more violent these drafts will be. The remedy is to reduce the air quantity, in itself a confession of weakness, or to increase the temperature of the air supplied, which is much the same thing.

It is further pointed out that currents of unequally heated air are not only unhygienic, but that they seriously interfere with the transmission of sound from the stage or platform, the finer qualities of the singer's or speaker's voice being often quite lost as a result. Even more important is the question of air impurity. Not only does each member of the audience influence the temperature, but he takes to himself a proportion of the vital properties of the air, and returns to it his own semi-poisonous exhalations; besides throwing off a certain amount of what Professor Woodbridge aptly calls "personal débris." With the imperfect method of "downward ventilation," as it is called, just described, it will be seen that a large part of these noxious elements—which in the main

cause the greater part of the immediate discomfort to an audience in an ill-ventilated room—cannot be eliminated from the atmosphere immediately surrounding the breather.

By substituting upward ventilation, so called, for downward, however, it is evident that the amount of fresh air needed to maintain a definite standard of purity would, in the first place, be much less. Professor Woodbridge, for example, gives the following illustration, in which the candles, of course, represent the human audience: "An otherwise tight small chamber has been fitted with a perforated floor and ceiling; candles have been closely placed upon the floor and lighted, and the chamber has been furnished with just enough air through the floor to bring and keep the candle flames at full brilliancy. When this same air quantity was supplied through the perforated ceiling, the flames dwindled almost to the point of extinguishment, the candles were smothered and softened, drooped and bent double in their own vitiated air and heat brought back upon them by the downward movement of the ventilating air. Gas jets equal in number to the candles were then used, and supplied with air by the upward method until the flames reached their maximum brilliancy, and when again the direction of the ventilating current was changed, the quantity of air remaining constant, the flames became small, pale and sickly."

The necessary air supply being so much smaller with upward ventilation, the problem of the ventilating engineer, Professor Woodbridge points out, is to supply the required amount without drafts; but the ingenuity necessary in accomplishing this result is so considerable that it is only recently that the problem has been even approximately solved.

Without going into the exact details of the special method recommended by Professor Woodbridge, it is perhaps sufficient to say that the plan which furnishes the most complete results requires an air chamber beneath the auditorium, in which the pressure shall be such as to produce a regular flow of fixed velocity through openings discharging into specially designed box-shaped legs on the theatre chairs—in the case of a theatre—or into a box of corresponding pattern beneath the pews of a church. Thus the air does not strike directly upon the legs or ankles of the persons in the audience, but is gently diffused horizontally beneath the seat, so as to make an equable and practically draftless body of pure air, cooler than that above the audience, which rises to take the place of the warm air and the breathed air, which, in turn, rises away from the occupants of the chairs or pews and passes out at the

ceilings. In theatres the suggested outlet is in the rear, above the gallery.

The results obtained by this method of upward ventilation have in many cases been extraordinary. Thus, in the hall of the Massachusetts Institute of Technology, the "increment"—or increase during the occupation of the hall—of carbon dioxide, the presence of which is an indication of certain poisonous elements in the air attending its use by many breathers, sank from 14.86 under previous conditions to 1.92. The experiments were extended with similar results to the legislative halls of the Maine State House, the new chambers of the Massachusetts and Rhode Island legislatures, and the Senate Chamber, the House of Representatives, and the Supreme Court in Washington.

More typical, however, are the results obtained in several of the large Boston theatres. In one of these, for example, near the close of a performance, when the seats were well filled and many persons were standing, the carbon dioxide increment has been found to be less than 1.6 in 10,000 parts of air. Admittedly, the increment is greater in the balconies than in the orchestra floor, due, of course, to the fact that they intercept air rising from the floor and do not, except in rare instances, receive the full benefit of the flow from the air chamber beneath the auditorium; but even here the results are far superior to those obtained by the common methods of downward ventilation, where the carbon dioxide increment has been found to range from 15 to 45 in the same 10,000 parts of air.

In the matter of the increase and variations of temperature the following table of the results carefully recorded in a Boston theatre employing upward ventilation are interesting and typical:

	Degrees.
Orchestra, front, right, temperature.....	67 to 71
Orchestra, front, centre, temperature.....	68 to 72
Orchestra, front, left, temperature.....	67.3 to 72.3
Orchestra, rear, right, beneath balcony....	66 to 73
Orchesfra, rear, left, beneath balcony.....	66 to 72
Balcony	68 to 70
Gallery	68 to 73

In a Boston church, where repeated experiments were made with crowded audiences, seated through long sessions incident to special services, the rise of temperature within the auditorium has been reported as not exceeding two or three degrees, the quality of the air meanwhile continuing so pure as to be made a matter of fre-

quent remark or inquiry. In another church, it may be added, an apparatus which had been unsatisfactory in securing downward ventilation, secured entirely satisfactory results when the system was changed from downward to upward—a fact which, as Professor Woodbridge points out, furnishes a striking proof of the essential correctness of the principles regarding the ventilation of audience halls for which the department of ventilation at the Institute of Technology stands.

RIVER POLLUTION AND SEWAGE PURIFICATION.

The following abstract of the annual report of Mr. W. Naylor, chief inspector to the Ribble Joint Committee, which we extract from our esteemed contemporary, "The Surveyor," November 29, 1901, is one of those documents which give a good idea of the work that is being done in improving the condition of rivers in England, which may be profited by in the United States. Their condition in many cases, especially in industrial districts, is a by-word, but the cleansing process, though slow, is very often sure and, considering the extent of the evil, satisfactory. In his report for 1900-01 Mr. Naylor is able to state that during the year under review progress has been satisfactory in regard to the purification both of sewage and of trade wastes within the district. No actions were taken into court for offences under sewage clauses of the act, and only one under those referring to trade wastes, and the opinion is expressed that both local authorities and manufacturers are now satisfied that the policy of the committee is to call for no more than it is entitled to under the act, but to insist simply on the proper administration of the act. The steady and increasing growth of bacterial filters is again the most noticeable feature of the year. An advantage to which Mr. Naylor draws attention in connection with bacterial filters—or beds, as we should prefer to call them—is that they can be laid down for the treatment of part of the sewage almost as economically as for the treatment of all the sewage of a district, and can be increased as occasion demands—"no small matter where opinion is divided as to their probable efficacy." We think, however, that opinion on the subject now tends to become tolerably unanimous. A second advantage pointed out is that there need be no serious complications of valves, levels, conduits or brickwork, and therefore that the beds are comparatively inexpensive. A third point recorded in their favor is that the re-

sults they produce are obvious. By way of illustrating this remark, Mr. Naylor states that in former days it was a familiar experience for him to meet local authorities at their outfall works, on which considerable sums of money had been spent, and to explain that an effluent, though clear and apparently good, was not what it seemed to be, but was really a foul and polluting effluent which called for further expenditure. These were evidently the days of chemical precipitation, and the work of the inspectors, no doubt, was arduous enough. Now it is much more common for sewage first to be treated septically and then turned on to bacteria beds, "each successive filtration or contact resulting in a visible improvement." Naturally, the work of the inspecting staff has thereby been made more easy and pleasant.

Mr. Naylor, however, is able to find some excuse for the dilatoriness of local authorities in former days. He does not consider that they failed to appreciate their responsibilities under the Pollution Acts, but believes that the uncertainty connected with sewage treatment, the many cases of money wasted and the prevalence of contradictory advice, caused them to shrink from any undertaking of size or consequence in this connection, except under compulsion. This hesitation, however, is fast disappearing, and during the past year, for example, whenever it was pointed out that the character of a sewage effluent suggested an increase in the facilities for treatment, steps of a satisfactory nature were at once taken toward that end, and it is pointed out that this will naturally have the effect of inducing the inspectors to give very careful consideration to a case before making any complaints or recommendations. About 44 per cent. of the samples of effluents examined were found fit to be classified as good. One warning, however, is found necessary, and that is in connection with the character of much of the new work executed, and especially the bacteria beds. Mr. Naylor is of opinion that in very few cases is the work of that sound, workmanlike quality which is common to municipal undertakings and work generally in the North of England, 9-inch brick walls, 6-inch concrete floors (or none at all) and cheap wooden conduits being the order of the day. These, it is added, must result in trouble sooner or later, "for workmen and caretakers may take a pride and interest in good serviceable plant, but with that which is tumbling to pieces and constantly being patched they soon become disgusted." It is recorded as a somewhat singular fact that the most substantial bacteria bed in the committee's district is being constructed by a firm of bleachers, and is the only bed with walls and

floor likely to be there fifteen years hence. In defence of the local authorities it is urged that, owing to the refusal of the Local Government Board to sanction loans without land, the work must be done cheaply and the cost defrayed out of revenue. Mr. Naylor, however, points out that the Royal Commission on Sewage Disposal, in their recent interim report, declared that it is practicable to produce, by artificial processes alone, effluents satisfactory enough to be discharged into a stream without creating a nuisance, and declared in favor of the Local Government Board modifying, under proper safeguards, the present rule as regards the application of sewage to land.

So much for domestic sewage. In regard to trade effluents we are told that improvement is evidenced not only by the increase in the percentage of good samples, but by the enlargement and reconstruction of bacteria beds, and Mr. Naylor is hopeful that in due course these beds will be adopted largely for the treatment of trade wastes—if not for the discharges as a whole, at all events, for selected portions of them—though it is admitted that it yet remains to be seen how far and at what expense the chlorine, alkalies, acids and other sterilizing ingredients of the wastes can be combated. In default of some such method of dealing efficiently with trade effluents, Mr. Naylor has not much hope of bringing the rivers to a state of comparative purity and maintaining them there. Even after very efficient costly precipitation and settlement, it is found that manufacturers' effluents are heavily laden with matters liable to deposit themselves in the streams, and the result is found in numerous serious complaints, especially in periods of dry weather. The question of trade effluents is certainly a difficult one, but yet the inspector is able to say that, though the condition of the rivers is not yet all that might be desired, it is undoubtedly a great improvement on what obtained in the past. So far as the larger local authorities are concerned, extensive works are being carried out on every hand. For example, in Burnley a large system of filter-beds, ten acres to fifteen acres in extent, is being completed, and the precipitation tanks are being duplicated; equally extensive works are being carried out in Blackburn, where an installation of tanks and filter presses has recently been completed; at Wigan the precipitation tank capacity is being increased; in the boroughs of Nelson, Colne and Chorley material additions are being made to the filter-beds; and most of the urban district councils, we are told, are similarly engaged or are watching the effect of recent additions. Mr. Naylor concludes with the following general remarks:

"These, and the many additions being made or just completed, will in due course certainly make themselves felt. Moreover, my experience is that no one appreciates more the effects of these purification works, when once they are down, than the parties putting them into operation. The manufacturers are benefited by cleaner water all round, and frequently by economies effected in the act of purification, and the local authorities by better sanitary conditions, sweeter environments, and cleanliness generally." In spite of the great amount of work still to be done, the tone of the report, and of Sir J. T. Hibbert's remarks in moving its adoption, was distinctly hopeful.

WOMEN AND MARRIAGE.

From the New York "Times":

It is a favorite trick with that type of clergyman whom you aptly styled "yellow" to have a fling at the women when other topics fail to draw a crowd. Women have borne with this kind of insult, and have submitted to be lectured from the pulpit upon their duties as women with a patience worthy of a better cause. Isn't it about time that these pulpit busybodies learned a little of that modesty and decency they are so fond of prating about? What do they know about our motives when marrying or not marrying?

We are tired of being instructed by men about our duties as mothers, and the effrontery of it is not lessened because the man who does it happens to be a clergyman. If the church wishes to keep the respect and loyalty of enlightened women in the twentieth century, her priests and ministers had better drop that topic, or else bring a little plain common sense to bear upon it.

It is astounding to find a man with any pretensions to intelligence asserting that education impairs a woman's maternal functions! Where is the "clearly established law" on this point?

That too great intellectual strain will break down a woman's health is undeniable; it will break down a man's health, too—but are there no mental and physical wrecks of women except among the highly educated?

Do the women who toil early and late trying to bring up their too numerous children on a pittance, often of their own earning, never become broken down? It is among these poor women, prematurely aged and weakened by toil and too frequent child-

bearing, will be found those devoted to lust and pleasure, but it is the lust and pleasure of the men, not their own. They are but victims of that savage creed which subjugates a woman to her husband's desires, even though her pain-racked body cry out in protest.

In George Moore's story, "Esther Waters," the terrible slavery of Esther's poor mother, dying at last with her eighth child, while her brutal husband spends in drunken revelry the money earned by his older children, arouses hot indignation that such outrages are possible, such bestiality tolerated under the cloak of marriage, in this so-called civilized age!

That man is of coarse mold who values woman chiefly for her usefulness as a drudge, or her capacity as a breeder of human beings. Have we no use for life except to pass it on?

The reverend gentlemen who laud the prolific woman as the highest type will have no difficulty in finding plenty of them in the slums. Their miserable offspring swarm in the tenement districts, and later fill our almshouses and prisons. The charity of the thrifty is drawn upon constantly to save the helpless families of the improvident poor, recklessly breeding like vermin.

The thoughtless, the ignorant, and the vicious are always ready to take up lightly responsibilities which more intelligent and conscientious men and women ponder seriously before assuming. In the light of her awakened intelligence and greater knowledge the educated woman knows that the laws of heredity work out their ends even unto the third and fourth generations. Not the perils and pangs of maternity alone daunt her, but the possibility of setting in operation forces which may prove beyond her power to control; of transmitting through herself ancestral traits which she dreads to see reappear in her children, to thwart perhaps her best efforts at character-moulding—these things make her hesitate before assuming the responsibilities of motherhood.

If the frivolous woman, the mere selfish seeker after worldly pleasures, does go to the altar with the avowed purpose of never becoming a mother, the world owes her a debt of gratitude if she succeeds in keeping her vow. Such qualities as hers are not the kind that should be perpetuated in another being.

As for the old bachelor, it is a pity there aren't more of him! It is an insult to posterity for some men to become fathers. Is society the better for its brood of decadent weaklings? Better let the type die out than for women to lend themselves to perpetuating a race of aimless, vapid men, and weak, silly, nerveless women.

Not more mothers, but better ones. Not less education for our women, but more, broad, thorough and practical, is the need of the age. A race of highly developed women, cultured physically as well as mentally, will be a race of strong women, fit to produce a race of strong, pure, noble men. MOTHER OF FOUR.

New York, Nov. 27, 1901.

DEFORMITIES OF OCCUPATION.

The redoubtable Sherlock Holmes could easily tell a man's occupation by observing his attitude, the color of his skin, or the callous spots on his hands. Every employment leaves its mark on the human body in the shape of some deformity, says Gabriel Prévost, who contributes an article on the subject to "La Science pour Tous" (May 19). Says M. Prévost:

"Looked at closely, all occupations cause deformity—even the state of being without an occupation. Complete leisure, if such a thing exists, causes fatty degeneration, anæmia, arrest of growth. Diderot was right when he wrote, 'It is the daily occupations that determine, not only the whole size of the figure, but the true proportions of each limb and of their combinations.' Police magistrates, who have practised eyes, are rarely deceived at first sight about the profession of a workman.

"Among professional deformities, some affect the health directly, others only alter the normal attitude of the body to the prejudice of hygiene and esthetics. The first, which fall within the domain of medicine, still await a proper scientific description. Here and there we read of the necrosis of match manufacturers, the cataract of blacksmiths, miners' paralysis, etc.; but there remains to be written a whole treatise, of the greatest interest, to indicate the means of guarding against the dangers that beset a numerous class of indispensable workmen devoted to various special interests.

"The principle at the bottom of it all is that we were not created to be always standing up, nor always sitting down, nor always kneeling, nor always bending over; and that, with the exception of climate, we were created to obey the law of variety, as well in movement as in nourishment. The best proof is that, apart from accidents, longevity attaches to just those professions that give

the whole organism the most exercise—those of the soldier, the painter, the sculptor, and the actor.

"M. Chevalier has concluded from his investigations that compositors, who are always standing, are apt to suffer from palsy, fatigue, and, with age and abuse of alcoholic liquors, from varicose veins and ulcers. The same is true of women employed in shops, who have to stand for twelve or thirteen hours consecutively. Some of them, the cleaners, who have to kneel a long time while scrubbing, are subject to swelling of the knee, and to hydarthrosis, especially when they are rheumatic.

"Occupations requiring a bending posture comprise those of the clerk, the tailor, the shoemaker, the gardener, the miner, the engraver, the wood-sawyer, the laundress, etc. Here all the trouble comes from the engorgement of the abdominal viscera, whence arise affections of the digestive organs and the resulting headaches, etc. The vertebral column tends also to be deformed, as we see too often with old gardeners as well as old students.

"The metallic vapors of mercury, copper, and arsenic are very pernicious. Workmen exposed to those of copper have a marked green color of the hair, skin, and mucous membrane. The effects of arsenic are very injurious. As for mercury, we may cite the case of an English vessel, the Triumph, which, having taken on board a cargo of mercury, had her whole crew attacked by salivation, ulceration, and partial paralysis. . . . .

"Among instrumental musicians, flutists and clarinetists may be recognized by the position of their lips and the puffing out of their cheeks. . . . The violinists who hold their violins in place with their chins hang their heads and incline them toward one side. Harpists and players on the guitar have callosities of the fingers. Pianists have a tendency to exaggerated development of the hands—witness Weber, who could stretch nearly two octaves. Grooms and cavalry officers have bow-legs and tend to 'toe in;' priests and magistrates, and all those who wear skirts, are inclined to drag their legs, in distinction from soldiers, who raise them. Dancers who have worked hard at 'pointing' have a deviation of the internal metatarsus, commonly known as the 'onion.' Painters have the mark of the palette-hole on their left thumb.

"Both hygiene and esthetics bid us, one and all, to be careful of the equilibrium of forces. . . . A good example is furnished in Sweden, where evening gymnasium classes have been established for the two sexes; not those places of torture which turn

out acrobats or clowns, but real places of amusement, where people go as they do to the theater. Those who attend them return to their homes in better condition than if they had been in a smoky café drinking alcoholic beverages over cards or dominoes."—*The Literary Digest.*

MEDICAL EXCERPT.

By T. P. Corrally, A. M., M. D.

Pneumothorax Designedly Produced.—M. Delagénière presented to the Société de Chirurgie "Gazette hebdomadaire," December 8, 1901, the history of a new case of pneumothorax intentionally caused, as was the one which he had previously presented for the relief of pleuro-pneumonia. He said:

"At the last Surgical Congress I cited a case in which a pneumothorax resulting from an operation caused no serious trouble; I present to you to-day another case showing the harmlessness of pneumothorax when produced, even designedly, as a preliminary step to other operations. The present case is one of relapsing chondro-sarcoma, in which a very extensive resection of the ribs was necessary. In the pleuræ cavity was found an extensive prolongation of the foreign growth.

"I produced slowly a pneumothorax and was then able, the thoracic cavity being extensively laid open, to finish completely the removal of the neoplastic mass. The loss of substance resulting from the removal of the extensive tumor was so great that I could not join by suture the diaphragmatic portion of the pleura to the costal pleura; I therefore brought down the lung and sutured one part of it to the costal pleura and another to the diaphragmatic pleura. I then evacuated with an aspirator all the air contained in the pleural cavity.

"The operation lasted two hours and the patient was very much exhausted; she, however, recovered soon, with the aid of an injection of serum, and a complete cure was the final result."

The conclusions of M. Delagénière are the following: The pneumothorax produced for the purpose of exploring a healthy thorax has no dangers.

The pneumothorax facilitates the exploration of the pleural cavity and enables the surgeon to remove tumors or foreign bodies. The suture of the lung to the diaphragmatic portion of the costal

pleura renders the function of the diaphragm and the lungs possible. After the sutures have been made it is necessary to remove the air contained in the pleural cavity as it has been restored.

TUBERCULOSIS OF ALIMENTARY ORIGIN.—M. Arlong, director of the Veterinary School of Medicine at Lyons ("Progrès medical," December 28, 1901), strongly opposes the doctrine sustained at the Congress in London, by M. Koch, on the absence of danger from the use of milk and meat taken from tuberculous animals. The facts and the demonstrations that he presents are very conclusive proofs of the position he has taken. The doctrines of Koch are entirely inadmissible in a prophylactic point of view, and would be, if accepted, productive of grave danger.

RENAL TUBERCULOSIS.—M. Albaran presented to the Société de Chirurgie ("Gazette hebdomadaire," October 20, 1901) a very interesting case of renal tuberculosis, in which the diagnosis was made after a careful catherization of the ureter, which was followed by a successful operation of nephrectomy. The symptoms were exceedingly insidious; careful observation showed the presence at distant intervals of hematuria, which returned only after long intervals. Later on the presence of pus was found in the urine; there were also bacilli in the pus.

A very careful examination of the lumbar region gave absolutely nothing; there was no pain, not even tenderness, and no swelling.

It then became necessary to resort to a methodical endoscopic examination in order to arrive at a diagnosis. The endoscopic examination of the bladder showed that it had no part in producing the disease. In the catherizing of the ureters, the left was found to be closed, and in the matter retained bacilli were found in abundance. The examination of the urine taken from the other kidney showed that the quantity of urea was sufficient. The removal of the diseased kidney was then justified, since the opposite one sufficed.

When the kidney was removed, extensive disease was found in the kidney and its immediate surrounding. These lesions were not, however, of any diagnostic value from a clinical point of view; the catherization of the ureters alone gave an early and precise diagnosis.

MALFORMATIONS CAUSED BY CORSETS.—M. Hamy presented ("Le Progrès médical," December 28, 1901) a skeleton of a

woman, showing in a most distinct manner the great deformities of the bones produced by the use of corsets.

ARTHROPATHIES AND DYSENTERY.—M. Claude presented to the Société Médical des Hôpitaux ("Le Progrès médical," December, 1901) the case of a patient whom he treated and on whom he made an autopsy, who was about fifty years of age and had suffered at first from arthropathies having all the appearance of rheumatism. The pains in the joints were removed by the use of salicylate of soda. The patient was then attacked with diarrhœa, attended with intestinal hemorrhage; death soon followed, caused by peritonitis and perforation of the intestines. At the autopsy all the lesions characteristic of dysentery were found. M. Claude was not able to isolate the microbe pathogenic of this disease, because the autopsy was made too late.

M. Chanternesse remarked that in the alvine discharges in the patient of M. Claude there were no amibes. He referred to a microbe which he described with M. Widal about fourteen years ago, which was of the group bacterium coli.

M. Simonin, in an epidemic of dysentery nostras, found bacterium coli and enterococcus in great quantity, but did not find any amibes.

WOUND IN THE NECK.—M. Mathieu, a military surgeon, presented to the Société de Médicin, for M. E. Giss, of Thionville, the case of a man wounded with a knife at the sixth cervical vertebra, three centimeters from the median line ("Gazette hebdomadaire," October 13, 1901). Less than thirty-six hours after the wound a very abundant discharge of a serous fluid flowed from the wound, and at the same time phenomena resembling paresis appeared in the right arm. M. Giss diagnosed it as a wound entering the spinal column with discharge of cephalo-rachidian fluid, and found a part of the blade of the knife in the wound, at a depth of about four centimetres. This piece of knife-blade was then extracted without pain; it measured 7 cent. 05 in length.

At certain times the quantity of cephalo-rachidian liquid discharged was estimated at three or four litres in twenty-four hours. This discharge ended by ceasing spontaneously at the end of about five weeks. M. Giss has estimated that at least thirty litres of cephalo-rachidian liquid was discharged in that time. Convalescence was long; the cure remains, two years having expired.

SMALL BULLET IN THE SPINE.—M. Loison made a report to the Société de Chirurgie in October last of a case in which a bullet of small calibre entered the spine. On the third of June last a soldier was brought to the hospital of Val-de-Grâce who had received in his back a ball of a carbine Flobert. There was but one orifice by which it could enter; the radioscopic examination gave no satisfactory result; the radiographic test showed that the projectile was located in the sacral region at a depth of about two centimeters. Judging from the situation of the point of entrance we might suppose that the ball had entered the spinal canal between the second and the third lumbar vertebra, and had fallen from there, by its own weight, to the bottom of the rachidian cul-de-sac; experiments on the cadaver have proved that this course was entirely practicable.

Trephining done by M. Meignon did not enable him to find the ball. This disappointment was explained by a new application of radiography, which showed that the ball was movable.

M. Loison then followed the method of M. Contremoulin, by a new operation on the 23d of September. The ball was finally removed. The result has not so far been stated; appearances were in favor of its success.

SYPHILIS AND GONORRHŒA.—"Highly fatal contagious diseases," "American Medicine" forcibly remarks, "are ignored in the health reports and by the people. A contemporary estimates that 100,000 new cases of infection occur annually in one American city. So long ago as 1874 a competent statistician estimated that there were nearly two millions of such diseased persons in England, and Mulhall thinks that the number of soldiers in Europe ill with the disease averages 19 per cent. of the forces. Czerny thinks 50 per cent. of all sterility is due to this cause, and the reports of twenty-four specialists have shown that 41 per cent. of all pelvic inflammation is traceable to it. Is the policy of ignoring a wise one? We are straining every nerve to reduce the mortality of diseases not one-tenth so fatal. We are deporting consumptive immigrants and are unconcerned about the importation of diseases infinitely more loathsome and lethal. And the consumptive is not a sinner; is this the reason we are so lenient toward him? We are compelling notification of cases of small-pox, scarlet fever, diphtheria, etc., and smile carelessly at the ravages of diseases that maim and kill far more than all these put together. When will civilization learn to grapple with its real evils?"

MILK DRINKING AND TUBERCULOSIS.—Biedert ("Berliner klinische Wochenschrift," November 25, 1901; "American Medicine," January 11, 1901), after calling attention to the fact that in 1883 he published his belief that tuberculosis is seldom if ever transmitted from cows to human beings by milk-drinking, goes on to cite the conditions as existing in the Bavarian Highlands, and to some extent throughout Bavaria, as proof of his theory. In the former region almost the entire population subsist for the most part upon milk and cheese. Tuberculosis is known to exist among the cattle, but the disease is a comparative rarity among the human population, in spite of the consumption of large quantities of undoubtedly tuberculous milk. Biedert calls upon the German Government to collect further statistics among the dairy population of the Alpine provinces to aid in the settlement of the present Koch controversy.

IN THE TREATMENT OF NASAL CATARRH, Dr. Eugene C. Underwood, surgeon B. & O. S. W. R. R., Louisville, Ky. ("St. Louis Medical and Surgical Journal," July, 1901), says that "in a case attended with no constitutional disease nothing is necessary beyond having the patient spray the nasal mucous surface with a solution composed of equal parts of water and hydrozone every three hours. If the case has persisted some time and the patient has an amount of mucous discharge, I have him take twenty drops of balsam of copaiba four times daily. The hydrozone is not only a disinfectant and germicide, but its curative action on the inflamed mucous membranes is speedy and is not equaled by any other drug I have ever used. When the patient is anemic I have him take iron, and any other drug is used when it is called for by any associated disease or morbid condition, but the hydrozone spray is used in all cases.

"In the atrophic variety we shall have to use the same local application. The hydrozone at once overcomes the offensive odor and takes off the purulent crusts. These cases must be treated with cod liver oil, iron and such other remedies as will bring up the general health."

EDITOR'S TABLE.

SANITARIAN, FEBRUARY, 1902.

☞All correspondence and exchanges, and all publications for review, should be addressed to the editor, Dr. A. N. Bell, 337 Clinton St., Brooklyn, N. Y.

NATIONAL HEALTH SERVICE.

Attention is invited to the bill recently introduced into Congress for the establishment of "The United States Health Service," printed in full on other pages of this number. It very completely comprehends the conditions evolved by the work of the Marine Hospital Service, for which THE SANITARIAN has contended for several years. It deserves the support of the medical profession and all sanitarians who would have a thoroughly efficient health service, wholly free from the complications and embarrassments contemplated and undertaken by previous propositions. It has some opponents, who continue to harp upon the original purpose of the Marine Hospital Service, for the mere care of sick mariners, a hundred years ago, to which duty they would now relegate and restrict it, with a singular purblindness to the efficiency with which it has expanded during recent years, contemporaneously with the national needs for the prevention of epidemic diseases. This was particularly manifest during the Spanish-American War by the deference shown it, as the sanitary service, by both the military and naval forces; and markedly since by Congressional action authorizing the equipment of a national laboratory and the establishment of the yellow fever institute in connection therewith, under its direction. Indeed, the Marine Hospital Service for several years has but lacked the name with which the bill referred to now dignifies it. The bill, as a whole, utilizes the qualifications of an exceptionally competent personnel, trained on a strictly military basis, with an already established *esprit de corps* in sanitary service. The superior competency of this corps to grasp and administer the new duties devolved upon it by the bill, as compared with the heterogeneous personnel, wedded to respective State interests, as proposed by the Spooner bill, can hardly be called in question by any sanitarian who would unify the service for strictly impartial administration.

RETIREMENT OF SURGEON GENERAL VAN REYPEN.

Surgeon-General van Reypen entered the naval service as assistant surgeon on December 26, 1861, having previously served as assistant surgeon of the Second Regiment, New Jersey State Militia, from April to July, 1861. His first duty in the navy was at the Naval Hospital in Brooklyn. In September, 1862, he was ordered to duty in charge of the Marine Hospital, Key West, Florida, which was then used by the navy as a yellow fever hospital. On his arrival he found that his predecessor had just died of the disease and there were fifty-six cases of yellow fever in the hospital. He remained on duty at Key West until December, 1864, having passed through two epidemics of yellow fever.

During his service in the navy he has been attached at different times to every squadron, and has been fleet surgeon of the Pacific, North Atlantic and squadron of naval review. While attached to the Pacific squadron he traveled overland from Valparaiso to Montevideo in company with Lieutenant Potter to obtain information for the Government. He was the senior medical officer with Rear-Admiral Benham at Rio de Janeiro in 1894 when yellow fever was prevalent on every merchant ship and every man-of-war in the harbor, except on the vessels of the United States Navy.

In 1884, while surgeon of the Powhattan at the Boston Navy Yard, preparing for a cruise in the West Indies, he was ordered to Washington to take charge of the Bureau of Medicine and Surgery, and remained as acting chief of the bureau until April 1, when he was appointed assistant to the bureau. He remained as assistant to the bureau until April, 1892, when he joined the San Francisco at Honolulu as fleet surgeon of the Pacific squadron. In 1897 he was sent as the delegate to represent the Medical Department of the Navy at the International Medical Congress at Moscow, and read a paper on the care of wounded in the navy, and presented drawings of an ambulance ship which he had designed, copies of which drawings were presented by request to the Russian Minister of Marine.

On October 23, 1897, he was appointed Surgeon-General of the Navy, and was reappointed on December 18, 1901. During his first term he had an opportunity to carry out the theory advanced in his Moscow paper, and the ambulance ship Solace, which rendered such excellent service during the war with Spain, was the result of his efforts. The new naval hospitals at Portsmouth, N. H., Mare Island, Cal., and Newport, R. I., were built from his designs.

During his term as Surgeon-General the Hospital Corps of the Navy has been established, assistant surgeons have been given the rank of junior lieutenant, and the pay of medical officers has been placed on its old basis.

DR. PRESLEY M. RIXEY, PRESIDENT M'KINLEY'S PHYSICIAN, APPOINTED.

Washington, January 21.—The President to-day nominated Dr. Presley M. Rixey to be Surgeon-General of the Navy, with the rank of a Rear-Admiral.

Dr. Presley Marion Rixey, in addition to having served as surgeon in the United States Navy or on special duty at Washington since 1874, was President McKinley's physician, and his appointment as Surgeon-General of the Navy by President Roosevelt is in accordance with the announced intention of President McKinley.

Dr. Rixey was born in Culpeper County, Va., July 14, 1852, and was graduated from the medical department of the University of Virginia in 1873, afterward taking a post-graduate course at Philadelphia. He entered the navy as assistant surgeon, January 28, 1874, and was in service at home and on European stations until 1893, having been promoted to surgeon in 1888. Since 1893 he has been on special service on the Dolphin until 1895, and at Washington since that time. In Washington he attended President McKinley through two illnesses. He also was called on to attend Mrs. McKinley in her illness at San Francisco. Dr. Rixey is highly esteemed by the members of his profession, and is known as a brilliant operator in surgery. He is a member of a prominent Virginia family, and is the elder brother of John Franklin Rixey, who for several years represented his district in Virginia in Congress. Dr. Rixey will succeed Surgeon-General William K. Van Reypen.

INTERNATIONAL QUARANTINE REGULATIONS.

The Committee on International Sanitary Regulations of the Pan-American Congress, Mexico, Jan. 10, recommends an international arrangement on the following basis:

"The undersigned signatory republics, desiring to lessen the burdens experienced by the existing administration of quarantine regulations imposed upon international intercourse and commerce,

on account of the existence within their respective sovereign limits of infectious or contagious diseases, and convinced of the fact that international comity in sanitation and quarantine would tend greatly to remove existing obstacles and promote mutual interchange of trade and commerce, as well as eradicate organic causes of contagious diseases, thereby protecting human life and adding to the prosperity and development of those places now imperiled by ravages of disease, have agreed to recommend the following resolutions to the earnest consideration of their respective governments:

"1. All matters relating to maritime quarantine should be intrusted to the national governments, which shall have the sole right to institute maritime quarantine; to establish the necessary quarantine stations, both land and floating; to define the length of time during which a vessel may be detained, and to adopt such measures as may be deemed necessary to prevent the introduction of contagious disease.

"2. In the ports of each of the signatory States there should be established two kinds of quarantine, first, the quarantine of inspection or observation and, second, the quarantine of detention and disinfection.

"3. The signatory parties agree to recommend that prohibitive quarantine on all kinds of new manufactured merchandise between ports and territories of the parties shall be abolished.

"4. The signatory parties hereby agree to co-operate with and lend every possible effort of the municipal, provincial, or local authorities within their respective limits, to the end that efficient and modern sanitary conditions may be obtained in all the ports and territories of each, for the purpose that quarantine restrictions may be diminished to a minimum and finally abolished.

"5. The signatory republics further agree that it shall be the duty of their respective health and quarantine organizations to promptly notify the diplomatic or consular representatives of the signatory republics stationed within their territory of the existence and progress within their sovereign limits of the following diseases, namely: Cholera, yellow fever, bubonic plague, small-pox, or other serious pestilential outbreaks. It shall be the duty of the sanitary authorities in the respective ports to note on the bills of health the transmissible diseases which may exist in said ports prior to the sailing of the vessel.

"6. In order to bring health and quarantine organization more closely together for mutual benefit and international co-operation,

a general convention of representatives of these organizations shall be provided for as hereinafter specified.

"In order to promote the above aims it is recommended that an international sanitary committee shall be established, whose membership shall consist of not to exceed five delegates appointed by each republic; said delegates to be selected from the respective health and quarantine organizations of each republic so far as practicable.

"That a general convention of these delegates shall be held once every two years, in which convention one delegate may represent more than one republic, the voting to be by republics, each republic represented having one vote in the convention.

"The first general convention shall be called by the President of the United States, one year from the date of the adoption of these resolutions by this conference, and the meeting place or places of subsequent conventions shall be determined by the general convention.

"The Executive Board shall consist of five members, to be elected by the general convention, which, with the Surgeon-General of the Marine Hospital Service of the United States as chairman ex-officio, shall maintain a permanent international sanitary bureau at Washington, D. C."

The functions of the general convention shall be advisory in character. They shall make manifest, practical and active the latest scientific knowledge which the world has obtained in sanitation, to the end that the public health may be protected, and that commerce may be facilitated. The general convention assembled or, in the interim, the Executive Board, shall have the authority to appoint subcommittees or experts to investigate, in co-operation with local authorities, into the sanitary condition of ports or places where pestilential diseases prevail, and to inquire into any other special conditions affecting the health of the American republics, and to maintain communication with the various health organizations for the purpose of recommending sufficient measures in all emergencies.

The salaries and expenses of the delegates and experts of each republic are to be paid by the respective governments which they serve. The office expenses and the expense of special investigation, as well as publication, translation, and distribution of reports, are to be paid from a special fund created by annual appropriation by the signatory republics, made on the same basis as is in force for the maintenance of the Bureau of American Republics. It is

further recommended that the facilities of the Bureau of American Republics, under the direction of the Secretary of State of the United States, be utilized by the general convention, and its Executive Board, for the correspondence, accounting, auditing, and disbursing and preservation of the archives incident to the administration of the proclaimed purposes of the convention.

UNITED STATES HEALTH SERVICE.

December 18, 1901, Mr. Hepburn, H. R., introduced the following bill, which was referred to the Committee on Interstate and Foreign Commerce and ordered to be printed; December 19, Mr. Perkins, of the Senate, introduced the same bill in that body; it was read twice and referred to the Committee on Public Health and National Quarantine.

A BILL to increase the efficiency and change the name of the United States Marine-Hospital Service.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That the United States Marine-Hospital Service shall hereafter be known and designated as the United States Health Service, and the Supervising Surgeon-General and the officers now or hereafter commissioned under the Act of January fourth, eighteen hundred and eighty-nine, entitled "An Act to regulate appointments in the Marine-Hospital Service of the United States," are hereby designated as the Surgeon-General, surgeons, passed assistant surgeons, and assistant surgeons of the United States Health Service; and the salaries and allowances of said officers, the surgeon-general excepted, shall be the same as now allowed by regulations of the Marine-Hospital Service, acting assistant surgeons, hospital stewards, and employees shall be continued in employment under the United States Health Service, and shall be employed hereafter under the regulations of said service. Nothing in this Act shall be held or construed so as to discharge any officer or employee now serving in the Marine-Hospital Service or to deprive any officer of his commission. The care of sick and disabled seamen and all other duties now required by law to be performed by the Marine-Hospital Service shall hereafter be performed by the United States Health Service, and all funds and appropriations now provided by law for use by the Marine-Hospital Service, and all properties and

rights pertaining to said service are hereby made available for use, for like purposes and in like manner, under the Treasury Department, by the United States Health Service.

SEC. 2. That the salary and allowances of the Surgeon-General of the United States Health Service shall be the same as now allowed by law to be paid to the Surgeon-General of the Army.

SEC. 3. That commissioned medical officers, when detailed by the Surgeon-General for duty in the United States Health Bureau at Washington, District of Columbia, in charge of the administrative divisions thereof, namely, marine hospitals and relief, domestic quarantine, foreign and insular quarantine, personnel and accounts, sanitary reports and statistics, and scientific research, shall, while thus serving, be assistant surgeons-general, United States Health Service, but their pay and allowances shall be the same as now provided by regulations of the Marine-Hospital Service for officers in charge of said divisions; and the senior officer thus serving shall be the assistant within the meaning of section one hundred and seventy-eight, Revised Statutes of the United States.

SEC. 4. That the President is authorized, in his discretion, to utilize the United States Health Service in times of threatened or actual war, and the commissioned medical officers of said service, while thus serving, or while serving on boards or otherwise brought into official relations with medical officers of the Army or Navy, shall have rank as follows: The Surgeon-General ranking with and after the Surgeons-General of the Army and Navy; assistant surgeons-general ranking with and after assistant surgeons-general of the Army and medical directors of the Navy; surgeons with and after surgeons of the Army having rank of major, and of the Navy having rank of lieutenant-commander; passed assistant surgeons with and after assistant surgeons of the Army having rank of captain, and of the Navy having rank of lieutenant; assistant surgeons with and after assistant surgeons of the Army having rank of first lieutenant, and of the Navy having rank of junior lieutenant.

SEC. 5. That there shall be an advisory board for the Hygienic Laboratory provided by the Act of Congress approved March third, nineteen hundred and one, for the purpose of conferring with the Surgeon-General of the United States Health Service relative to the investigations conducted in said laboratory. Said board shall consist of the Surgeon-General of the Army, the Surgeon-General of the Navy, the Chief of the Bureau of Animal

Industry of the Department of Agriculture, and the director of the said laboratory, who shall be ex-officio members of the board and serve without additional compensation; and five other members, to be appointed by the Secretary of the Treasury on recommendation of the Surgeon-General of the United States Health Service, who shall be skilled in laboratory work in its relation to the public health and not in the regular employment of the Government. The said five members shall each receive compensation of ten dollars per diem while thus serving, together with allowance for actual and necessary traveling expenses and also hotel expenses while in conference, said conferences not to exceed ten days in any one fiscal year. The period of service of the first five of the members not in the regular employment of the Government shall be so arranged that one member shall retire each year, the appointments thereafter to be for a period of five years. Appointments to fill vacancies occurring in a manner other than as above provided, shall be made for the unexpired term of the member whose place has become vacant.

SEC. 6. That the President shall appoint and commission one chemist, one medical zoologist, and one pharmacologist whenever in the opinion of the Surgeon-General commissioned medical officers of the United States Health Service are not available for this duty by detail, who shall be in charge of the divisions, respectively, of chemistry, zoology, and pharmacology of the hygienic laboratory, and shall each have the pay and emoluments of a surgeon of the United States Health Service and be subject to the regulations of said service. The director of the said laboratory shall be an officer detailed from the corps of commissioned medical officers of the United States Health Service as now provided by the regulations for such detail from the Marine-Hospital Service, and while thus serving shall have the pay and emoluments of a surgeon.

SEC. 7. That when in the opinion of the Secretary of the Treasury the interests of the public health would be promoted by a conference with the State or Territorial boards of health or health authorities, the District of Columbia included, the Surgeon-General of the United States Health Service is hereby authorized, with the approval of the Secretary, to invite one or more of said boards of health or authorities to send delegates, not more than one from each State or Territory and District of Columbia, to said conference, and when thus convened said delegates shall be entitled to reimbursement for their necessary expenses of travel and

of maintenance not exceeding five days at the place of conference, in accordance with such regulations as may be made by the Secretary of the Treasury.

SEC. 8. That to provide uniformity in the registration of mortality, morbidity, and vital statistics, it shall be the duty of the Surgeon-General of the United States Health Service, after conference with the State boards of health, to prepare the necessary forms for the collection and compilation of said statistics, and said statistics, when transmitted to the United States Health Bureau on the approved forms, shall be compiled and published by the United States Health Service as a part of the health report published by said service.

SEC. 9. That the President shall from time to time prescribe rules for the conduct of the United States Health Service. He shall also prescribe regulations respecting its internal administration and discipline, and shall prescribe the uniforms of its officers and employees; and the Surgeon-General shall transmit annually to Congress, through the Secretary of the Treasury, a report of the transactions of said service.

MORTALITY AND MORBIDITY REPORTS AND REVIEWS.

HEALTH OF THE NAVY.

Report of the Surgeon-General, United States Navy, for the Year 1900.

The health of the Navy and Marine Corps for the calendar year 1900 is reported satisfactory, though the complete returns indicate a slight increase in the ratio of admissions to the sick list per 1,000 of strength as compared with that for the previous year. The ratio was, for 1900, 824.12; for 1899, 783.03.

The average strength of the active list for 1900 was 23,756, an increase of 2,937 over the previous year. Complete returns were received from a force of 22,977, the difference, 779, representing individuals on leave, waiting orders, special or detached duty, or

serving on small vessels from which medical returns in detail are not received.

The total number of admissions for all causes was 18,936; of these, 15,829 were for disease and 3,107 for injury, giving a ratio per 1,000 of strength of 688.90 and 135.22, respectively. The corresponding ratios for 1899 were 636.11 and 145.52.

The daily average of patients was 799.80, and the ratio per 1,000 of strength 34.80, as compared with a daily average of 645.82 and a ratio per 1,000 of 32.11 for 1899. The number of persons invalided from the service (including retirements of officers for disability and transfers to the Government Hospital for the Insane) was 695, a ratio of 29.25 per 1,000 of force; the corresponding ratio for 1899 was 26.03. Of the total number discharged during 1900, 586 were for disease and 109 were for injury.

During the year there were 211 deaths, the death rate per 1,000 of force being 8.88, divided as follows: For disease, 5.01; for injury, 3.87. The mortality rate for 1899, including deaths from all causes, was 7.35 per 1,000, 4.56 for disease and 2.79 for injury. Thirty-four deaths occurred in the Navy and Marine Corps in China during the recent hostilities, while several others, occurring since, were directly attributable to those operations. If these cases of death were excluded in the comparison, it would be found that the mortality during 1900 was practically the same as in the previous year.

The admissions to the sick list during the year included 1,699 cases of *epidemic catarrh*, 983 of malarial diseases, 963 of wounds, 902 of diarrhœal affections, 828 of rheumatic affections, 336 of dengue, 246 of alcoholism, 195 of dysentery, 175 of typhoid fever, 160 of measles, 132 of mumps, 128 of heat stroke, 117 of pulmonary tuberculosis, 100 of organic heart disease, 99 of pneumonia, 40 of nephritis, 37 of rubella, 10 of small-pox, 2 of yellow fever, and 1 of bubonic plague.

The number of cases of *typhoid fever*, 175, exceeded that for the previous year by 41, the difference being accounted for by a greater prevalence of the disease in the Tropics and an increase in the enlisted force of the navy. This disease was especially prevalent in Guam, L. I., 28 cases occurring there out of a total of 83 cases returned during the year from all shore stations; 27 cases occurred in the force afloat on the Asiatic station, and 19 aboard the vessels of the North Atlantic Squadron.

Diarrhœal affections were somewhat less prevalent, relatively, than during the previous year, but dysentery caused a larger num-

ber of admissions than in 1899, 40 cases occurring in Guam, L. I., 34 among the force ashore in China, and 33 in Cavite. There were also 6 admissions for dysentery in the North Atlantic Squadron and 32 in the force afloat on the Asiatic Station. Only 5 deaths were attributed to this disease.

Dengue was, as in previous years, especially prevalent in Cavite, P. I., nearly all persons on duty there being attacked shortly after their arrival. The only localities outside of the Asiatic station from which dengue was reported were at San Juan, P. R., where 18 cases occurred, and at the navy-yard, Pensacola, Fla., where there was 1 case.

Of ships, some continue to be employed in the service that have been constructed regardless of sanitary requirements. Notably in this respect, the "Brutus" and "Albany."

The "Brutus," as described by Surgeon Frederick A. Hesler, is a collier of about 6,000 tons displacement, detailed for duty as station ship for the island of Guam. The decks of the ship from the bow to the break of the poop are of iron. The poop has a wooden deck and is the only portion of the deck fitted with awnings. The effect of the sun's rays on an iron deck in this latitude is very objectionable.

The quarters provided for the crew are inadequate, and, with the exception of the engineer's force, are located in the bow just under the iron spar deck, in consequence of which the heat there is always extreme.

The engineer's force has quarters about amidships, on the same level as the after well deck, but immediately aft of, though above, the engine and fire rooms. These quarters are too crowded, and when the ship is at sea are usually wet.

The wardroom country is about 13 feet square, and the mess table occupies about one-third of this space.

The commanding officer's room occupies the starboard side of the wardroom, and there are two rooms for officers on the port side. These latter are fitted with upper and lower bunks and are occupied by two officers each. Just aft of the commanding officer's room is the officers' water closet, and immediately aft of this and adjoining it is the wardroom pantry. Just aft of the wardroom on the port side is a single room occupied by one officer.

On account of the excessive heat and lack of ventilation most of the officers sleep on the poop in chairs, hammocks, or folding cots; but as rain here is so frequent, their rest is very often disturbed during the night by having to remove their "makeshift" beds be-

low. At sea the air ports must be closed practically at all times, the freeboard of the ship loaded being about 2 feet 3 inches.

The officers' and men's water-closets are crude and objectionable, especially the officers', which practically opens on the wardroom and, as before stated, is immediately next the pantry. On the trip from Manila to Guam this closet leaked so that the floor was at all times practically awash with water.

The ship has no bathrooms nor showers for officers or men, and not even wash-rooms for the engineer's or the deck force. The lack of these would be a particular hardship to both officers and men in any climate; but in this one the necessity for these common comforts is very great, especially as nearly every day this ship is sending coal ashore. The men are therefore required to wash in the open, and this could not be done in a more severe climate in winter (such as Japan), where the ship might be required to go for stores, repairs, and docking. She has no electric plant, and consequently no electric fans, which would add greatly to the comfort of all in this climate; and there is no ice machine on board.

The medical department is supplied with neither sick bay nor dispensary. In consequence of there being no sick bay, sick call is held at the break of the poop each morning, and it is difficult to give any case a private examination, there being no suitable available place for that purpose. If a prescription is to be compounded, the wardroom table or the pantry must be used, and the drugs must be weighed by a pair of small hand scales, there being no place on board to set up apothecary's balances.

I feel it my duty to report that from a medical and sanitary point of view this ship is totally unfitted for the duty to which she has been assigned, and I most earnestly recommend that some ship more adapted for service in the Tropics, and with some of the more common comforts for officers and men, be detailed to relieve this ship as soon as possible.

The "Albany" is described particularly by Surgeon N. T. Harris. She was purchased in 1898 from Armstrong, Whitworth & Co., at Newcastle-on-Tyne, England, by whom she was designed and built originally for the Brazilian Government. She was commissioned May 29, 1900, at Newcastle-on-Tyne. Her quarters for both officers and men are shown to be singularly inadequate in space, badly located, dark and very imperfectly ventilated. Even when "in port, in rainy and warm weather, the conditions are bad enough from a sanitary point of view. At sea, whenever there is any draft below on the berth deck, it is from the forward to the

after part of the ship, and therefore the air in the wardroom mess room, warrant officers' mess room and staterooms, and in the junior officers' rooms becomes after a short time so polluted as to be practically unfit for respiration. There is but one ventilator leading into the warrant officers' country, and this is a windsail, which must be let down through a hatch in the poop deck and another hatch through the gun deck; but as the hatch in the poop is forward of the hatch in the gun deck, practically no air finds its way by this means into the warrant officers' quarters; hence the air in the quarters is soon contaminated by that which comes from the berth deck. There are two ventilators, one foot in diameter, leading from the poop deck into the wardroom country, but they open below the awning which is always spread at sea in warm weather, and so supply very little fresh air. Consequently, in warm weather, when the air ports must be closed, the officers prefer to sleep on deck, provided it is not raining.

"The total air space in cubic feet is 43,143.04, and in this are included the sick bay and a small space for chief petty officers. With the crew, numbering 328 men, which is the present complement, this gives 134.58 cubic feet of air space for each man for respiration, and as there is little renewal of the air in the berthing spaces, it soon becomes foul. For this reason, when the weather permits, the crew sleep on the deck, but at times they are forced to sleep below, and when such is the case the conditions could not well be worse from a sanitary point of view.

"This ship is, for the reasons I have given, in my opinion, wholly unsuited for cruising in the Tropics, and I believe if she does so the health of the crew will suffer so materially as to greatly impair the efficiency of the ship as a cruiser."

The naval hospitals and stations and navy-yards are shown to be, in general, in good sanitary condition. The station at *Guam*, however, is exceptional. "Its location, from a sanitary point of view, is very unsatisfactory. This seems to be due to some extent to its close proximity to an extensive swamp, but more especially to the pollution for so many years of the ground of the city from a lack of provision for the proper disposal of the excreta and of any system of drainage. The elevation of the ground is only from four to twelve feet, and the drinking water is obtained from shallow wells often polluted by surface drainage and cesspools. Though an evaporating plant was provided for the station shortly after it was established and every effort made to place the Government property in sanitary condition, the influence of the surround-

ings has been apparent in the health record of the station at Agana. In an average complement of 158 officers and men there were 28 cases of typhoid fever, 40 of dysentery, and 52 of simpler diarrhœal troubles. The practical absence of malarial disease is noteworthy. Only one case of that nature was returned, and it seems reasonable to assume that it was a reappearance of the disease, the infection having occurred elsewhere. Examinations of the blood of the natives have been made repeatedly without finding the plasmodium."

The Naval Museum of Hygiene during the year: "The library was increased by the addition of 73 volumes of bound books, and the usual number of medical and scientific journals and health reports was received and arranged for convenient reference. Three hundred and thirty-nine chemical, bacteriological, and microscopical examinations were made, chiefly for clinical purposes, and also a number of experimental and analytical observations on formaldehyde generators, water sterilizers, and vaccine. Various cultures have been prepared from time to time and sent as required to naval hospitals and stations, for diagnostic purposes, and a number of microscopical outfits have been issued on requisitions from ships and stations.

"New assay apparatus has been installed and improvements made in building and grounds. A corrugated-iron ceiling was placed in the assay room and in one of the rooms on the first floor. A portion of the wall on the east side of the grounds was rebuilt, drains cleaned, and grass seed sown where required."

Of the Medical Corps: "The passage by the last Congress of the act giving assistant surgeons in the navy the same rank as assistant surgeons in the army has proved a great boon to the corps. A very desirable class of young medical men are now seeking admission, and the number of vacancies has been reduced from seventeen at last report to four, and it is probable that these will soon be filled."

NEW YORK.—No State Board of Health bulletin received since that for October to the time of this writing, January 18.

THE TUNNEL "ACCIDENT" by which seventeen persons were killed outright and thirty-six wounded, in the Park avenue tunnel of the New York Central Railroad, Jan. 8, seems, in the light of frequent reports of its dangers, to have been persistently invited. It is difficult to imagine the maintenance of a more persistent menace to the traveling public than this has been for twenty years. But

last year, only, the Health Department awoke to the danger and undertook to have it mitigated. The Grand Jury made a deliverance against it, but the resistance of the railroad company dallied with the recommendations; formally pretended to effective work, but accomplished nothing. Yet Senator Depew is reported to have said: "If there is a place on earth where engineering skill, foresight and intention to use every precaution has been taken, it has been in that tunnel!" But the company has been purblind to electric power for use in the tunnel, so effectively and safely used in the Baltimore tunnel for several years. The Pennsylvania and Long Island railroads have published perfected plans for equipping with electric power tunnels under the North and East rivers—in advance of the completion of tunnels—to convey their passengers safely to the city. But there is no evidence that the New York Central had even thought of such a measure of safety for its perilous dungeon—for the "accident" has shown that it was very imperfectly lighted. Do such conditions verify Senator Depew's estimate of engineering skill? It is to be hoped that District-Attorney Jerome will so expose the responsibility of the railroad company as to secure effectual legislation for the prevention of such criminal negligence and under such penalties as will safeguard the public not only in this case, but for the future against it and other enterprises of a similar nature.

The new New York City Board of Health, consisting of Health Commissioner Lederle, president; Police Commissioner Partridge, and Health Officer Doty, at its first meeting, January 2, dropped 157 persons from the pay-rolls. Dr. H. M. Biggs was appointed medical adviser to the board, and the Medical Advisory Board, consisting of twelve physicians, to serve without salary, was named. The new names on this board are: Drs. E. G. Janeway, J. D. Bryant, W. M. Polk, A. Jacobi, L. E. Holt, F. P. Kinnicutt, A. A. Smith and J. W. Brannan.

Dr. Joseph H. Raymond was appointed sanitary superintendent in Brooklyn, in place of Dr. Robert Black, resigned; Dr. Edward F. Hurd, sanitary superintendent in the Borough of the Bronx, in place of Dr. Eugene Monaghan, resigned; and Dr. Samuel Hendrickson, of Jamaica, assistant sanitary superintendent for the Borough of Queens, in place of Dr. Obed Lusk, resigned. Joseph A. Deghues, Ph.D., heretofore chemist's assistant, was appointed chemist to the board.

An effort is to be made by the new president of the Board of Health to secure the safety of the records of the Bureau of Vital

Statistics, which are now kept in a room on the third floor of the building on Sixth avenue, which was leased for the department in 1899 for ten years. For some time past most of them have been filed in metal boxes, but the protection against loss by fire is not regarded as at all adequate. Back to 1873 the marriages, births and deaths are indexed, and between 1873 and 1853 the statistics are complete, as filed by the month. With small intervals of blank pages, they go still further back, to 1847, when the records of marriages and births cease. The deaths, however, are recorded as far back as 1800, and on the death certificate of Alexander Hamilton, in 1804, the following remarks are set down: "Fell in a duel with Col. Aaron Burr near Wehawk, N. Jersey, on the morning of the Ninth of July; interred at the expense of the Corporation of the City of New York." As many as 250 transcripts, it is stated, are made from the records each week, principally for the use of lawyers, as the bureau has come to be a most important adjunct to the machinery of the courts.

Deaths reported for the four weeks ending January 4: Borough of Manhattan, 2,945; Bronx, 381; Brooklyn, 1,602; Queens, 165; Richmond, 84: 5,177. Death rates, respectively: 20.24; 21.78; 16.98; 12.88; 15.61: 18.79. Deaths from phthisis, 557; pneumonia, 698. Cases of infectious diseases reported: Phthisis, 893; diphtheria and croup, 1,002; measles, 2,558; scarlet fever, 936; small-pox, 49; typhoid fever, 207: 5,645.

Of the 70,808 deaths reported during the year 1901, 8,295, or more than one-tenth, were on the records of the morgue. There were 3,219 bodies of infants and children under five years consigned to the morgue, but this large number is to be explained by the many deaths occurring at birth in families too poor to bury the little waifs. Last year there were 3,857 deaths by accident, 701 suicides, 105 homicides and 1,273 victims of sunstroke. The last item is particularly interesting when contrasted with the 315 deaths from the same cause in 1900. Pneumonia was reported to have caused 9,128 deaths and tuberculosis 9,396 deaths. While there were only 178 deaths from typhoid fever reported in 1900, there were 729 in the year just closed. The total death rate for 1901 was 20.02 per thousand. There were 80,735 births, or an excess of more than 10,000 over the number of deaths.

Deaths and the causes thereof in the Borough of Brooklyn during the years 1900 and 1901, as reported by Dr. S. I. Byrne, registrar, are as follows:

	1900.	1901.
Influenza	202	294
Small-pox	...	9
Measles	311	160
Scarlet fever	129	496
Diphtheria and croup	865	733
Whooping-cough	235	111
Typhoid fever	299	274
Typhus fever	...	...
Malarial fever	58	66
Cerebro-spinal fever	92	55
Diarrhœal diseases	2,688	2,699
Diarrhœal diseases, under 2 years	2,241	2,247
Organic heart diseases	1,451	1,434
Bronchitis	776	672
Pneumonia and broncho-pneumonia	3,204	2,893
Phthisis	2,450	2,474
Bright's disease and nephritis	1,723	1,896
Suicide	187	169
Homicide	36	21
Sunstroke	103	331
Other accidents	676	693
All other causes	7,990	7,833
Total	23,475	23,313
Deaths under 1 year of age	5,682	5,201
Deaths under 5 years of age	8,774	8,151
Deaths over 65 years of age	3,344	8,585
Deaths in institutions	3,946	3,970
Deaths in tenements	12,361	12,326
Births	22,572	22,182
Marriages	8,124	8,303
Still births	1,813	1,776

CALIFORNIA.—San Francisco, 360,000. Report for November: Total deaths, 564; death rate, 18.79; deaths from cerebro-spinal meningitis, 2; typhoid fever, 10; bubonic plague, 1; whooping cough, 1; diphtheria, 10.

CONNECTICUT.—The State Board of Health bulletin for November reports 1,104 deaths. This was 42 more than in October,

and 7 more than in November of last year, and 77 more than the average number of deaths in November for the five years preceding. The death rate was 15.1 for the large towns, for the small towns 13.2, and for the whole State, 14.6.

The deaths reported from infectious diseases were 106, being 9.6 per cent. of the total mortality.

The infectious diseases continue to prevail in varying numbers. The prevalence of measles has much diminished, but scarlet fever has increased very markedly. It has occurred in 42 different towns, yet notwithstanding that widespread prevalence in a territorial sense, the vigilance of the local health officers is proven in the limited number of cases in the whole State. A disease as easily communicated as scarlet fever, if occurring in more than 40 towns during one month would, under old methods of management, have caused a good many hundred cases. But by watchful isolation and efficient disinfection the total cases reported were less than 250.

Small-pox has also invaded the State from the surrounding States more frequently than for several years. There have been 22 cases reported during the month in 10 towns.

All the above diseases have been characterized by a remarkable mildness of type.

DISTRICT OF COLUMBIA.—278,880. There were 124 deaths in the District during the week ended January 4, of which 55 were of whites and 69 colored. In the corresponding week of last year they numbered 131. The death rate for whites was 141; for the colored, 40.0; and for all, 22.1 per thousand. Mortality from acute lung diseases, as compared with the last report, increased from 20 to 26, and from consumption from 13 to 15. There was a decrease in deaths from brain disorders from 16 to 13, and from affections of the heart, 7 to 3. There were 6 fatal cases of typhoid fever, 7 of diphtheria, and 5 of malignant growths. By violence 3 deaths occurred, all accidental.

ILLINOIS.—Chicago, 1,758,025. Report for November: Total deaths from all causes, 1,811. Death rate, 11.91. Deaths under five years, 447. Deaths from consumption, 195; bronchitis, 64; pneumonia, 235; diphtheria and croup, 55; cancer, 73.

The total exemption of the city from small-pox—no case having been discovered since August 12th, ult.—was interrupted by an imported Wisconsin case found on the 12th, after a three months' in-

terval. The victim—a Pole, 45 years old—had an imperfect, faint, vaccinal scar from childhood; never revaccinated. On the 18th three residents, who had been exposed to the Pole, and were under surveillance, developed the disease; these had never been vaccinated prior to exposure. On the 21st another imported Wisconsin case was discovered; also never vaccinated. At midnight of the 30th there were four cases remaining in the Isolation Hospital—the first case having been discharged recovered. These new cases were made the occasion of renewed appeals, in the Weekly Bulletins, to the unprotected public to "Get vaccinated."

INDIANA.—Reports to the State Board of Health show there were 2,842 deaths in the State in December, 1901, which is an annual rate of 13.3 in 1,000. Deaths under five, 531; one to four years of age, 151, or 5.6 per cent. Deaths from tuberculosis, 359; typhoid fever, 86; diphtheria, 51; scarlet fever, 18; measles, 3; whooping cough, 11; pneumonia, 380; cerebro-spinal meningitis, 22; influenza, 25; puerperal fever, 14; cancer, 81; violence, 148.

Cases of small-pox reported from 27 places, 465, with 2 deaths.

IOWA.—State Board of Health Bulletin for December sums up the outbreaks of infectious disease during the month of November: *Diphtheria* in 14 localities; *scarlet fever* in 29; *small-pox* in 68; *typhoid fever* in 3. The State has been divided into eight public health districts. Local boards of health have been notified that the Secretary of the State Board of Health cannot personally respond to calls for visits to infected localities. All such calls should be made directly upon the members of the State Board of Health at their residences, and should be made by the mayor or township clerk. No provision is made by the State for the payment of expenses for such visits. They must be borne by the city, town or township making the call.

KANSAS.—The Secretary of the State Board of Health reports for December the existence of *small-pox* at twenty-five localities, 380 cases, 1 death.

LOUISIANA.—New Orleans, 300,000 (80,000 colored). Report for November: Total deaths, 542 (200 colored); death rates, white, 16.63; colored, 21.68: 19.65; deaths under five years, 114 (40 colored); from typhoid fever, 11; malarial diseases, 13; scarlet fever, 6; whooping cough, 1; croup and diphtheria, 6; consumption, 57 (34 colored); cancer, 18.

MASSACHUSETTS.—*The Thirty-second Annual Report of the State Board of Health of Massachusetts,* for the year 1900, with its 915 pages, comprehends, as usual, a wide range of sanitary work.

The higher death-rate for 1900, as compared with the previous three years, although much less than the average for ten years, is attributed to a greater prevalence of infectious diseases. But the decrease in these diseases for a long period of years is satisfactory evidence of good work in the State, the death-rate from consumption alone being considerably less than half what it was fifty years ago, and from typhoid fever the improvement being especially notable. The 209 cases of small-pox in 1899 and 1900, with 17 deaths, furnish the usual proof of the value of vaccination, and gave occasion for two circulars of information on small-pox and vaccination from the board which would have prevented the present prevalence of this disease if the board's advice had been followed.

The sanitary statutes reported as enacted are: Requiring the State Board to examine and report annually upon all main sewer outlets in the State, and upon their sewage disposal, with recommendations; that the business of killing and rendering animals should be licensed each year, with a nominal fee for the license; prohibiting the taking of oysters and other shellfish from contaminated waters; providing hospitals for small-pox and other dangerous diseases; prohibiting the sale and manufacture of fabrics and papers containing a certain percentage of arsenic; authorizing cities and towns to take waters for emergency use; prohibiting the sale of articles of food and drink which contain antiseptics; requiring labels on certain article of food and drink.

Of the more than 600 pages devoted to a most thorough study of water and sewage, 100 are given to the action of the board in reply to requests for information and advice from cities and towns and boards and corporations. Then follow papers containing full analyses and elaborate tables on examination of water supplies; on examination of rivers; on water supply statistics; on filtration of water; on the action of water upon metallic or metal-lined service pipes; on the retention of bacteria in ice when ice is formed under different conditions; on the efficiency of water filters; on the examination of spring waters; on the consumption of water in cities and towns in Massachusetts.

Under the laws providing for the inspection of food and drugs, 10,122 samples were examined during the year, including 6,232 of

milk, with the result of 94 prosecutions and 89 convictions, involving fines of $1,890.70.

There were 53,389 packages of diphtheria antitoxin, of 1.500 units each, issued to cities and towns; and 5,173 cultures were made for diagnosis of diphtheria. The examinations for diagnosis of tuberculosis were 746; 76 specimens of blood were examined for malaria infection and 62 for typhoid fever.

There were 32,615 notices of cases of infectious diseases received and recorded during the year.

Of 157 samples of paper and woven fabrics examined for arsenic, 34 were found to contain it, but only 7 in quantities beyond the limit allowed by law; and of 186 samples of dress goods, 81 contained arsenic, of which 27 had amounts beyond the legal limit.

In an exhaustive study of cancer by Dr. W. F. Whitney, the conclusion is reached that the great increase in cancer, as shown by the mortality returns, is apparent rather than real, due to better diagnosis and to registration less inaccurate.

The statistical summaries of disease and mortality are at present incomplete in many essential details, but they are of value, and perhaps chiefly as the possible beginning of placing that important subject where it belongs, wholly in the hands of the State Board of Health. Under the board's skillful management the subject of vital statistics might be made a credit to the State, as it unfortunately is not now, and of very much greater practical use.

BOSTON, 573,590.—Deaths during the month of October, 878. Death rate, 18.37. Deaths under five, 269. Deaths from "general diseases," 266; of which from tubercle of the lungs, 112; typhoid fever, 31; diphtheria, 13; alcoholism, 8; cancer, 16. Infectious diseases reported during the month, *small-pox* 49 cases—no deaths.

MICHIGAN.—The Secretary of the State Board reports for the month of December, 1901, compared with the preceding month, pleuritis, pneumonia, scarlet fever, inflammation of kidneys, smallpox, erysipelas, inflammation of bowels and cerebro-spinal meningitis were more prevalent; and intermittent fever, remittent fever, whooping cough and diphtheria were less prevalent. Reports from all sources show cerebro-spinal meningitis reported at 5 places more; whooping cough at 1 place less; measles at 12 places more; diphtheria at 11 places less; typhoid fever at 57 places less;

small-pox at 49 places more; scarlet fever at 2 places more, and consumption at 6 places more than in the preceding month.

Deaths: The month of December was a record-breaker as regards prompt reports from local registrars to the Secretary of State, over 99.74 per cent. of the population being promptly reported. This is the best record ever made in this country from a State area. There were 2,770 deaths returned, corresponding to a death rate of 13.5 per 100,000 population. This number is an increase of 316 over the previous month, but is only 95 more than the number returned for December, 1900.

There were 387 deaths of infants under one year of age; 182 deaths of children aged one to four years, both inclusive, and 853 deaths of persons aged sixty-five and over. The most marked increase of the month is in the mortality of the aged. Deaths from pulmonary tuberculosis, 151; other forms of tuberculosis, 18; typhoid fever, 53; diphtheria and croup, 54; scarlet fever, 39; measles, 14; whooping cough, 13; small-pox, 3; pneumonia, 330; influenza, 43; cancer, 126; accidents and violence, 157.

MINNESOTA.—Minneapolis, 240,000. Report for December: Total deaths, 200; death rate, 6.58; deaths under five years, 48; from typhoid fever, 4; croup and diphtheria, 7; acute respiratory diseases, 10; consumption, 22; cancer, 18. No. of deaths for year ending December 31, 1901, 2,260; annual mortality rate by estimated population (240,000) for the year ending December 31, 1901, 8.33; annual mortality rate by census population (202,718) for year ending December 31, 1901, 9.40.

MISSOURI.—St. Louis, 598,000. Report for November: Total deaths, 808; death rate, 16.21; deaths under five years, 199; from typhoid fever, 27; scarlet fever, 6; whooping cough, 2; croup and diphtheria, 30; consumption, 99; other respiratory diseases, 152; cancer, 28.

NEW HAMPSHIRE.—Sanitary Bulletin for January: At a meeting of the State Board of Health, held December 3, plans were discussed and a vote taken to hold a School of Instruction for Health Officers in the city of Concord some time in the month of April next. The plan outlined is to arrange a programme for three sessions each day, for a period of three or four days, comprising papers and discussions on a line of topics pertaining to the executive work of local boards of health, as well as to sanitary

matters upon which the public should be better informed. It is proposed to secure a few able sanitarians from outside of the State, men who are distinguished for their knowledge of such subjects, to be present with papers at these meetings.

At this writing, December 30, 1901, small-pox exists in four localities in this State, to wit: One case in Nashua, one case near Woodsville, three cases at Whitefield, and six cases at North Lisbon, all of which are in quarantine, and all exposed persons, as far as known, under observation.

NEW JERSEY.—Newark, 250,000. Report for six weeks ending December 28: Total deaths, 526; death rate, 18.23; deaths under five years, 63; from contagious and infectious diseases, 138; from typhoid fever, 5; small-pox, 34; croup and diphtheria, 14; consumption, 76; cancer, 6.

Hudson County (Jersey City and environs), 386,048. Report for October: Total deaths, 574; death rate, 17.8; deaths under five years, 176; from typhoid fever, 19; croup and diphtheria, 26; all zymotic diseases, 64; consumption, 80; pneumonia, 47; bronchitis, 23.

NORTH CAROLINA.—The State Board of Health Bulletin reports for November: Total deaths in 21 towns, with an aggregate population of 118,290 (47,200 colored), 190 (102 colored); death rates, white, 14.8; colored, 25.9; total 19.3; deaths under five years, 59; from typhoid fever, 34; scarlet fever, 3; malarial fever, 9; diphtheria, 3; pneumonia, 15; consumption, 30—19 colored.

OHIO.—Sanitary Bulletin, November-December: Cases of infectious diseases reported to the State Board of Health during eight weeks ending December 14, 1901, 85 places reporting, aggregate population 1,321,208: Croup and diphtheria, 802 cases, 100 deaths; scarlet fever, 530, 21 deaths; typhoid fever, 268, 63 deaths; whooping cough, 27, 4 deaths; measles, 1,454, 21 deaths.

Small-pox: Total number of cases reported during 1901 to June 1, 2,911, with 82 deaths. June 1 to December 20—1,076 cases, with 16 deaths. This makes a total of 3,986 cases and 48 deaths for the year to December 20.

Cleveland, 300,000. Report for December: Total deaths, 466; under five years, 144; from typhoid fever, 9; diphtheria and croup, 21; consumption, 20; tuberculosis, 14; pneumonia, 57; bronchitis, 13; cancer, 10.

PENNSYLVANIA.—Philadelphia, 1,293,697. Report for four weeks ending January 4: Total deaths, 1,896; deaths under five years, 449; from typhoid fever, 21; small-pox, 52; croup and diphtheria, 76; consumption, 222; cancer, 62.

Pittsburg, 332,000. Reports for the four weeks ending January 4: Total deaths, 433. Annual death rate, 20.86. Deaths under five, 159; from diphtheria and croup, 14; typhoid fever, 30; pulmonary tuberculosis, 33; cancer, 10.

UTAH.—Salt Lake City, 70,000. Report for December: Total deaths, 63. Annual death rate, 12.18. Deaths under five years, 7. Deaths from zymotic diseases, 21; pulmonary tuberculosis, 2; cancer, 2.

WASHINGTON.—Seattle, 110,000. Report for November: Total deaths, 68. Annual death rate, 7.44. Deaths under five years, 18. Deaths from consumption, 1; cancer, 6; typhoid fever, 2; pneumonia, 8.

WISCONSIN.—Milwaukee, 295,000. Report for December: Total deaths, 291. Annual death rate, 11.64. Deaths under five, 82; deaths from typhoid fever, 3; diphtheria and croup, 12; consumption, 28; cancer, 13; pneumonia, 38; bronchitis, 21.

HAVANA, 255,555. Major Gorgas reports for November, deaths, 443; annual death rate, 19.58. Taking this month for the last eleven years, the maximum number of deaths from yellow fever occurred in 1896, when we had 244; the minimum in 1898, when we had 13; average 48. This month not a case. I consider this a demonstration that Havana has at last been freed from the infection of yellow fever.

It must be remembered that October and November are the months when yellow fever is rife in Havana, and that, for the past century, there has never been a day during these two months when there were not many cases of yellow fever in the city; and very few years can be picked out, in all this time, in which the record for each day during these months does not show several deaths. This result I consider due to the system, introduced last February, of killing infected mosquitoes in the neighborhood of each point of infection as it developed.

Small-pox continues unabated throughout the United States. From June 25 to December 28, 1901, summed up from "Public Health Reports," 6,680 cases, 93 deaths.

Small-pox in London.—But little headway is being made by the health authorities in London against the present outbreak of small-pox. From May up to January 10, there were 2,273 cases reported to the authorities, and the number of new cases averages from twenty-five to thirty each day. The number of cases under treatment on January 10 was 878. The patients in London are not treated in hospital buildings, but in a number of hospital ships fifteen miles down the Thames, or in shelters erected in unfrequented districts on the banks of the river. Houses are rigorously inspected, and where infection has been found they are thoroughly fumigated, and when the diseased person is removed, the other inmates are quarantined. The death rate during the present epidemic has been 14 per cent. in the cases of persons who had been vaccinated, 65 per cent. in doubtful cases, and 50½ per cent. when the patients had not been vaccinated. The health authorities have decided to erect buildings for the accommodation of 800 additional patients, in order that they may be prepared to cope with the situation, should the present epidemic assume larger proportions.

"A VACCINATION CREED."

A commendable circular with this title has been widely circulated in Chicago by the Health Department, as follows:

We, the undersigned, hereby publicly profess our firm belief—based upon positive knowledge, gained through years of personal experience and study of small-pox and vaccination—

1. That true Vaccination—repeated until it no longer "takes"—ALWAYS prevents small-pox. NOTHING ELSE DOES.

2. That true Vaccination—that is, vaccination properly done on a CLEAN arm with PURE lymph and kept perfectly CLEAN and UNBROKEN afterward—never did and NEVER WILL make a serious sore.

3. That such a Vaccination leaves a characteristic scar, unlike that from any other cause, which is recognizable during life and is the ONLY conclusive evidence of a Successful Vaccination.

4. That no untoward results ever follow such Vaccination; on the other hand, thousands of lives are annually sacrificed through its neglect—a neglect begotten of WANT OF KNOWLEDGE.

And this supplement of practical results in Chicago:

Not one of the 346 cases of small-pox discovered in Chicago within the last three years was found vaccinated as defined in the "vaccination creed."

Of the total number, 306 never had been vaccinated at all, though most of them claimed that they had. Examination of the arms proved that these attempts at vaccination were failures; there was no scar, and the patients finally admitted that the vaccinations when performed did not "take." A "failure" is not a vaccination; therefore, these 306 cases had never been vaccinated.

Of the remaining 40 cases, 26 had old, irregular and doubtful scars, said to be the result of vaccination, but these were not characteristic; they were more like the scars from infected sores or wounds than those from vaccine. Nine had fair old scars of vaccinations made from 30 to 40 years previously. Only 5 had typical (characteristic) scars; but these also were the results of vaccination made many years before and never repeated.

In no single case of the 346 had the terms of the first article of the "vaccination creed" been complied with—vaccination had not been repeated until it would no longer "take." If it had been they could not have contracted small-pox.

AVERAGE LENGTH OF LIFE.

The census bulletin of deaths that occurred in 271 cities of 5,000 population or more shows that in 1900 18.6 persons died out of every 1,000, whereas in 1890 the number who died in the same cities was 21 out of every 1,000. The average age at death in 1890 was 31.1 years. In 1900 it was 35.2 years. If these statistics be accurate, the saving of human life that has been achieved in a decade is enormous.

DIED FROM A PIN SCRATCH.

Newark, N. J., December 30.—Blood poisoning as the result of a pin scratch caused the death at the City Hospital early this morning of Mrs. Margaret Hoagland, of 814 Bergen street. Mrs. Hoagland was dressing her baby on Christmas Day, when she received a slight scratch on one of her fingers from the point of a brass pin. She thought nothing of it at the time, but that night the finger began to swell, and the following day the swelling extended to her arm. She was removed to the hospital, where everything possible was done for her, but she died in terrible agony.

DIRT-EATERS.

A society of dirt-eaters organized about six months ago in St. Louis is said to be rapidly increasing in numbers. It now consists

of 75 persons who claim that the human stomach, like the gizzard of a fowl, requires grit, and that by eating a certain amount of dirt daily, such good health will result that the services of a physician will never be required. They only use a certain kind of material that is obtained from river bottoms, and is especially prepared and sterilized by the lawyer who started the society and who charges 25 cents for a bag for this prophylactic against disease.

Dirt-eaters are not uncommon among untutored negro children. They are pot-bellied, anæmic and scrofulous; good for nothing, and die young. The dirt-eaters of St. Louis are possibly of a different brood, but probably no better.—Ed. S.

THE UTILITARIAN PRINCIPLES OF TAXATION AND THEIR RELATION TO ALTRUISM, BY R. S. GUERNSEY, OF THE NEW YORK BAR.

The next article in the series will be in the March number. It will suggest how assessments and taxation for local improvements in the opening, grading and paving of streets in cities and villages, and for the construction of sewers, should be distributed and borne—in part by the city at large and in part by the property benefited by such public works, so as to be equitable and just and for the greatest good to the greatest number. The writer claims that the prevailing system now in general use in such cases is to oppressively tax the few for the benefit of the many. The natural sense of justice, therefore, revolts against it and thus prevents and retards such public improvements as would otherwise be made under a more just system of payment for them.

A CENTENARIAN PRACTITIONER.

Dr. John Wood, said to be the oldest practising physician in the world, celebrated his one hundred and first birthday at Coffeyville, Kan., on January 4. When Kansas was admitted into Statehood, he was a United States Commissioner, and John Brown was twice brought before him, once charged with murder and once with harboring fugitive slaves.

Prize for an Essay on the Effects of Morphine.—Dr. J. B. Mattison, of Brooklyn, has offered a prize of $400 for the best

paper on the subject, "Does the Habitual Subdermic Use of Morphine Cause Organic Disease? If So, Why?" The contest will be open for two years from December 1, 1901, to any physician in any language. The award will be determined by a committee consisting of Dr. T. D. Crothers, Hartford, Conn., editor "Journal of Inebriety," chairman; Dr. J. M. Van Cott, Professor of Pathology, Long Island College Hospital, Brooklyn, and Dr. Wharton Sinkler, Neurologist to the State Asylum for the Chronic Insane, Philadelphia. All papers must be in the hands of the chairman by or before December 1, 1903. They will become the property of the American Association for the Study and Cure of Inebriety, and to be published in such journals as the committee may select.

PRIZE ESSAY FOR SANATORIUM PLANS.

The following are the conditions of competition for the prizes offered, as was lately announced, for the best essays and plans for the sanatorium about to be established in England, through the donation of £200,000, for the treatment of tuberculosis: 1. Medical men of all nationalities may compete. The papers may either be the work of a medical man, or the joint production of a medical man and an architect. 2. The sanatorium is intended for 100 tuberculous patients—fifty male and fifty female. 3. Of the total number of beds, eighty-eight will be assigned to the more necessitous classes, while twelve will be reserved for the well-to-do. 4. The accommodation for all patients is to be comfortable, a separate room being provided for each. Superior arrangements to be made for the more wealthy patients. 5. It may be taken for granted that the sanatorium will be erected on an elevated and sloping site, with a sunny exposure, and well sheltered from cold winds. It will have a farm at a convenient distance, and be surrounded by extensive grounds, well-wooded, and affording ample space for exercises of various kinds. The soil will be dry and permeable, and the water supply abundant. 6. The sanatorium must be fitted with the latest sanitary arrangements, and equipped with all requirements for scientific research. Provision should also be made for the recreation of the patients. 7. Economy in construction will be an important consideration, but it must not interfere with the reasonable comfort of the patients or the efficiency of the institution. 8. The essays must be in English, and typewritten. 9. The essays must not bear the name or names of

their authors, but should have a motto, and each essay should be accompanied by a sealed envelope bearing the motto on the outside and containing the full name and address of the author or authors inside. 10. All essays and plans must be sent, postage paid, on or before the 15th of April, 1902, to one of the secretaries of the committee: Dr. P. Horton-Smith, 15 Upper Brook street, W. London, or Dr. J. Broadbent, 35 Seymour street, W. London. 11. Three money prizes of £500, £200, and £100, respectively, will be awarded in order of merit, on the recommendation of the Advisory Committee, for the three best essays, provided they come up to the requisite standard of excellence. Brevity will be an important consideration, and a summary of the main features of the scheme should be appended to the paper. Unsuccessful papers will be returned to the authors.

BOOK REVIEWS.

THE FOUR EPOCHS OF WOMAN'S LIFE. A Study in Hygiene. By ANNA M. GALBRAITH, M. D., author of "Hygiene and Physical Culture for Women"; Fellow of the New York Academy of Medicine, etc. With an introductory note by John H. Musser, M. D., Professor of Clinical Medicine, University of Pennsylvania. 12mo. volume of 200 pages. Philadelphia and London: W. B. Saunders & Company, 1901. Cloth, $1.25, net.

A book well calculated to awaken women to a sense of the penalties they have paid for indulged ignorance of those laws of nature which govern their physical being, and to make them feel the necessity for instruction in the fundamental principles which underlie the epochs of their lives.

This is pre-eminently the day of preventive medicine—a branch of medicine which seeks the co-operation of all persons concerned for their own health, or for the public health, and of none more than women; who, unfortunately for their own well-being, have hitherto held themselves altogether too much aloof from an effort to acquire knowledge of their own physical organization and functions absolutely essential for the maintenance of health. To overcome the repugnance of women in this respect is the purpose of the

book before us. It is an instructive work of practical utility to every woman who will read it. It gives, in a modest, pleasing, and conclusive manner, those truths of which every woman should have a thorough knowledge. Written as it is for the laity, the subject is discussed in clear language, divested of unnecessary technicalities, easily grasped by those most unfamiliar with medical subjects. Moreover, a valuable and commendable feature of this handy volume of instructive information is a comprehensive glossary of those unavoidable medical terms necessary to a thorough understanding of the subject under discussion. It is worthy of and should have the thoughtful consideration of every woman who would be well informed on the conditions of her destiny.

MUNICIPAL ENGINEERING AND SANITATION.—By M. N. BAKER, Ph.B., C. E., Associate Editor of "Engineering News." 12mo. Pp. 325. Price, $1.25. New York: The Macmillan Co.

A concise review of municipal engineering and sanitation, with deductions and application of principles, of practical utility in the whole field of municipal sanitation. "The City and Its Needs" are considered with reference to the ways and means of communication—streets and street plans, grades, pavements, street railways; municipal supplies; pure water and water-works; milk, slaughter houses, storage and markets; public halls, schoolhouses and libraries; municipal lighting, gas and electric; removal and proper disposal of city wastes; municipal dwellings and lodging houses; municipal parks, playgrounds and gymnasiums; cemeteries and crematories; protection of life, health and property; fire protection, plumbing and building regulations; lavatories and comfort stations—all concisely reviewed from a sanitary view point, and replete with suggestive practical knowledge.

TRICHINOSIS IN GERMANY.—Bulletin No. 30, U. S. Department, Bureau of Animal Industry. D. E. SALMON, D. V. M., Chief.

A pamphlet of two hundred pages in four parts: I, "General Remarks on Trichinosis in Germany," by Ch. Wardell Stiles, Ph.D.; II, "Statistical Review of Trichinosis in Germany During the Eighteen Years, 1881-1898," *Ibid.* III, "European Cases of Trichinosis of Alleged American Origin," *Ibid.* IV, "Bibliography of Trichinosis in Germany," by Albert Hassall, M. R. C. S. A particularly instructive report with reference to the inspection of pork, as shown by the health statistics of Germany during the period stated, and the fallacy of the attributed outbreaks of trichi-

nosis in Germany during that interval to American pork. The historical account of the disease and summary since its nature was first discovered, from German sources, render it doubtful whether that country ever has been entirely free from it. Yet, ignorant of, or purblind to what now appears to have been incontestable evidence of its existence and home source of dissemination, in apparent response to a vigorous attack of the German press on American pork, in March, 1883, all American pork was excluded from that country by royal decree. Tabulated statistics of cases and deaths are given from 1860 to 1898, and a classification of the cases and deaths arranged according to the source of infection in the German Empire, 1881 to 1898, inclusive, and the geographic distribution of the outbreaks, with such particularity as to show that the prevalence of the disease there was wholly independent of any foreign source whatever.

"NIL DESPERANDUM" (the writer's motto, adopted in youth), published by "The American Humane Education Society," Boston. Autobiographical Sketches and Personal Recollections. By GEO. T. ANGELL, President of the American Humane Education Society, the Massachusetts Society for the Prevention of Cruelty to Animals, and the Parent American Band of Mercy, 19 Milk street, Boston. Pp. 180. Price at the Society's office, six cents. When sent by mail, ten cents.

An interesting brochure of the origin and progress of the society he represents, with a portrait and life sketch. He began his livelihood as a school-teacher, studied and became a lawyer. Among the first of his professional acts is an account of how he turned a malpractice suit against a young physician to his—the physician's—advantage, besides the verdict in his client's favor; out of consideration of and to ward off the common effect of a suit for malpractice against a young physician, though acquitted. But it seems that, from childhood, he had cherished a fondness for animals to such a degree as to well nigh absorb his attention; insomuch that in 1864, when he was but forty-one years old, he made his will, leaving a legacy to be used, after his death, in circulating in schools, Sunday-schools and elsewhere information calculated to prevent cruelty to animals. Four years thereafter, March 23, 1868, he obtained the act of incorporation of "The Massachusetts Society for the Prevention of Cruelty to Animals," with which he has been identified ever since. He traveled abroad during the early years of its existence, enlisted much interest and substantial aid in its purpose, established branch societies abroad as well as at

home, and, by means of "Our Dumb Animals," a paper which he established for free circulation, in the promotion of the objects of the Society, it soon obtained an extensive and just reputation for good works, and the liberal support of humanitarians everywhere. And this reputation the society, as well as its founder, has maintained until during recent years—since "Our Dumb Animals" has been merged into "The Animals' Defender" and become a purblind advocate of inhumanity to man by its misrepresentation of experimental physiology, vaccination, production and use of antitoxin; efforts, indeed, to contravene the means of preventing devastating diseases. Away with *such* animal defenders. They are the defenders of *disease* germs—the most virulent and the most destructive enemies of mankind. And even if it were true, which it is not, that by vivisection and other uses some of the most insignificant animals are sacrificed without the use of anæsthetics, what standard of intelligence and humanity can be awarded to the champions and defenders of the most deadly enemies of the human race?

Verily, the Massachusetts Society for the Prevention of Cruelty to Animals, under recent auspices, is fast losing, and deserves to lose, the respect and sympathy of all intelligent people. Hence the esteem of its venerable founder, so worthily set forth in this brochure under consideration, must be entertained, as it deserves to be, wholly apart from the society as now represented by "The Animals' Defender."

AN ATLAS OF CLINICAL MEDICINE, SURGERY AND PATHOLOGY. —Jonathan Hutchinson, F. R. S., General Secretary of the New Sydenham Society, has requested Messrs. P. Blakiston's Son & Co., of Philadelphia, the American agents of the society, to announce the publication of "An Atlas of Clinical Medicine, Surgery and Pathology," selected and arranged with the design to afford, in as complete a manner as possible, aids to diagnosis in all departments of practice. It is proposed to complete the work in five years, in fasciculi form, eight to ten plates issued every three months in connection with the regular publications of the society. The New Sydenham Society was established in 1858, with the object of publishing essays, monographs and translations of works which could not be otherwise issued. The list of publications numbers upward of 170 volumes of the greatest scientific value. An effort is now being made to increase the membership, in order extend its work.

PAMPHLETS, REPRINTS, REPORTS, ETC., RECEIVED.

Affections of the Eye and Its Appendages in Bright's Disease. William Cheatham, M. D., Louisville, Ky.

Diseases of the Blood in Their Relation to Surgery, and Their Treatment. Geo. G. Van Schaick, M. D., New York.

Increasing the Therapeutic Value of Cod Liver Oil by the Addition of Free Iodine and Free Phosphorus. Louis J. Lauterbach, A. M., M. D., Ph.D., Philadelphia.

Hygiene in Therapeutics. Edwin W. Pyle, M. D., Jersey City, N. J.

Cystitis. Henry H. Morton, M. D., Brooklyn, N. Y.

Tuberculosis of the Testicle, Seminal Vesicles and Prostate. Ibid.

Sanatorium Treatment of Tuberculosis and its Relation to Climate. S. Edwin Solly, M. D., Colorado Springs, Col.

Syphilis as a Non-Venereal Disease, with a Plea for the Legal Control of Syphilis. L. Duncan Bulkley, A. M., M. D., New York.

Specific Treatment of Acute Dysentery. Wm. J. Cruikshank, M. D., Brooklyn, N. Y.

Systemic Factors in Catarrhal Deafness. Sargent F. Snow, M. D., Syracuse, N. Y.

German Text-books Half a Century Ago; History and Reminiscences. A. Jacobi, M. D., New York.

Surgical Treatment of Palatal Defects. Truman W. Brophy, M. D., D. D. S., LL. D., Chicago, Ill.

Papilloma of the Larynx. Francis J. Quinlan, M. D., New York.

Tenia, Ascaris Lumbricoides and Oxyuris Vermicularis, and Their Treatment. Samuel E. Earp, M. S., M. D., Indianapolis, Ind.

An Investigation of a Pathogenic Microbe (B. typhi murium-Dunyz), Applied to the Destruction of Rats. M. J. Rosenau, P. A. Surgeon, U. S. Marine Hospital Service, Washington, D. C.

New Canteen Booklet. Jas. B. Dunn, D. D., New York.

Arterio-sclerosis; The Greatest Foe of the Life Insurance Companies. Talbot Jones, M. D., St. Paul, Minn.

Immunity and Protective Inoculation. Henry Winston Harper, M. D., F. C. S., Austin, Texas.

Experimental Yellow Fever. Walter Reed, M. D., Surgeon U. S. Army; James Carroll, M. D., and A. Agramonte, M. D., Contract Surgeons U. S. Army.

Stimulants in Forensic Medicine. A Review of Drug Consumption in Vermont. A. P. Grinnell, M. D., Burlington, Vt.

Scrofula and Its Constitutional Treatment. Henry Y. Ostrander, M. D., Brooklyn, N. Y.

Rebuilding the System in Typhoid Fever. Ibid.

CONTEMPORARY LITERATURE.

THE PHILIPPINES.

An exceptionally interesting feature of the January number of the "North American Review" is a group of articles by the Filipino members of the United States Philippine Commission, setting forth the impression made by American rule upon the minds of the friendly natives of the Far Eastern Archipelago. The substitution of American for Spanish sovereignty has resulted in many advantages to the people which they regard as priceless. Among these Señors de Tavera, Legarda and De Luzuriaga mention the cessation of ecclesiastical domination, the organization of the municipalities, the subordination of the military to the civil power, the law of habeas corpus, the right of assembly, freedom of speech and of the press, the abrogation of obligatory military service, and the abolition of the system under which men were liable to punishment, even by death, for political beliefs. The three Filipino Commissioners are as one in the opinion that, while the war lasts, the provisional government should be maintained in its present form, but that eventually Congress should confer on the islands territorial government. They suggest also that it might be wise to have a small delegation from the Philippines to serve the Government in an informative capacity. America has much work to do in the Philippines, but a hopeful beginning has been made.

MANILA PECULIARITIES.

A capable newspaper correspondent, who has lived in Manila, writes from that city, in an illustrated article published in "The

Outlook," that acquaintance with Manila lessens objections to it. "It grows on one like vice or an acquired taste. The few natives whom whites meet in business or socially are courteous, quiet, likable people, even if whites never feel sure about trusting them. Native habits are not offensive. Everybody gambles and fights chickens, but both of these pastimes seek reasonable seclusion. There is no intemperance. Cafés and saloons do not obtrude their smells and noises on all sides, as in Havana. An American wonders at the few drinking-places until he learns that they cater only to his own kind, who constitute about three per cent. of Manila's population, and not more than four per cent. when soldiers flock to town. Natives keep to themselves. They do not gather in street crowds, except for church processions and fiestas celebrated in daylight. After dark they prefer the quiet of their own homes, where friends may drop in and enjoy a nibble of sweets and music."

OUR LANGUAGE IN THE ORIENT.

It is the opinion of some of the best of our officers that we have been showing rather too much deference to the Spanish language in the Philippine Islands, and that we could not do better than to bring the English tongue to the front in every possible way, encouraging its public and private use as the general medium of communication. But we infer from this latest report that this is just what is now being done. Spanish exists in the islands simply because it was the tongue of the civil and military authorities who preceded us in occupation. Even if we were proposing definitely to withdraw ten or twenty years hence, we could scarcely leave behind us any other legacy of our occupation that would so much benefit the Filipino people as a knowledge of the English language; for English is assuredly to be the world-language of commerce and of the higher civilization. Moreover, English is the language of Australia, which is destined to be the most important neighbor of the Philippines; it is India's language of adoption; it is domesticated in the Straits Settlements; it has an ever-increasing vogue in Japan; it prevails at Hong Kong—in short, it is the language of the future for international intercourse throughout the islands and coasts of the Pacific, while Spanish has no place whatever in those regions beyond its hold upon a small portion of the Filipino people, now exerted through what remains of the Spanish church

establishment.—From "The Progress of the World," in the "American Monthly Review of Reviews" for January.

MINISTERING ANGELS.

"Some of Our Wise Virgins" is the title of an article in the January "Century," in which Lillie Hamilton French gives the other side of the picture painted by Eliot Gregory in the November number, in "Our Foolish Virgins."

"I wish to say that, without violating any of the laws protecting the personalities of friends, I might describe one young girl whom I knew. I remember that on her sixteenth birthday she gave me a cup of tea: and certainly, that day as I watched her, dainty, charming, considerate, and beautiful, moving about her mother's drawing-room with exquisite grace, there was little in her manner to suggest a mind filled with those projects for relieving suffering which my older acquaintance meant to leave until she was forty. And yet, at that very time, this young girl was making daily excursions to a hospital for work in the children's ward. I asked her only the other day to tell me about it, and I shall here record what she said:

" 'The funds at the hospital were low, and there were only sufficient nurses to do what actual work was needed, but the doctors all said that the children must be amused. After a surgical operation many a little patient has fretted himself or herself into a fever, from crying partly with pain and partly with the irritation of the unaccustomed bandages. At meal-times, too, it was impossible for the few nurses to wait on all at once, and the wails of rage and disappointment that went up from the little cots were piteous. So our committee was composed almost entirely of girls still at school. There were about fifty of us, and we were divided into groups, so that four or five of us were supposed to be at the wards every day, except Sunday, which is mothers' day. We brought picture-books and toys, and played with the children, and sang to them if we could, and tried to be there at their dinner and supper time to help feed the hungry little mouths. We were to help soothe and comfort children just coming out of the influence of ether, for often, as you doubtless know, they sob unconsciously, and in some cases much mischief may be done unless the patient is quiet. Then, too, our being there allowed some of the nurses time for their daily walk, or liberty to attend clinical lectures. At Christmas we brought toys and supplied the dinner for the chil-

dren. Our annual dues (five dollars for each of us) supported a bed. This will give you an idea of how we tried to fill in a few cracks in the good work that was being done by the Ladies' Auxiliary Committee.' "

CUBA IN WINTER.

From Placetas, Cuba, a little girl sends this letter to "St. Nicholas," in which she corrects a popular error:

"Most of the people in the United States think that Cuba is very warm all of the time, but here in Placetas it gets pretty cool in the winter; sometimes we have to wear winter dresses and wraps; but we get oranges, bananas, pineapples and fresh vegetables all of the time, also cocoanuts. The Cuban olives are just about the size of my second-finger nail, and I am eleven years old—twelve 1st of March. . . . Most of the people in Cuba live in huts made of the green bark of the royal palmtree, under the big leaves which are used to make the roof, and they used to make rope of the trunk, but there is a fine now against cutting these trees. The rest of the buildings are made of wood with tiled roofs. There are very few stone houses or plastered ones on this island."

THE DELINEATOR for February is, as ever, timely in displaying seasonable and attractive styles for women and children. It is alike indispensable to all who would be fashionable, comfortable and economical in the choice of apparel suited to their respective needs.

PROCTOR'S VAUDEVILLE ENTERTAINMENTS

Have added much to the attractions of the theatres under his management. Refinement and superior excellence constitute the keynote of the Proctor scheme, hence the patronage of ladies and children is fostered and attracted. Nothing which could in the least offend the most fastidious is ever permitted upon any Proctor stage, and the personal conduct of everybody in the Proctor audiences must likewise be above reproach, or speedy ejectment and a permanent ban to admission is the consequence.

THE AGE OF LIBRARIES.

From the New York "Times Saturday Review of Books and Art."

AINSWORTH R. SPOFFORD, for many years Librarian of Congress, and still connected with that institution, recently made a very interesting address before the New York School of Library Science. It pertained largely to his own work in the Library of Congress, and the struggle that was necessary in order to secure an adequate building in which to house the Nation's collection. Below will be found the greater portion of Mr. Spofford's remarks:

"Your library class has had the good fortune to be born into an age which some of us hope will be known as the age of libraries, the age in which free public collections of books are being formed all over the country in numbers heretofore unknown; the age of State library laws, now in force in every American Commonwealth save ten; the age of Andrew Carnegie, patron saint of free libraries, whom earlier ages of belief would have canonized and perhaps worshiped as a being of superhuman beneficence. This more critical age regards him as a man of shrewd, realistic common sense, wise in bestowing his gifts for public benefit in his lifetime; wiser yet in bestowing them under the stern condition precedent that when he gives the building the community shall give the books and shall maintain a proper library force to administer them. Thus he secures a lively interest in the library; thus he teaches the great lesson that people must stand on their own feet and pay their own bills; thus the library becomes every man's care, and cities and towns will be better governed as the growing citizens grow more and more intelligent through the use of libraries. The Carnegie library methods are intensely practical. He does not belong to that ineffectual class who pray devoutly every day, 'Thy kingdom come,' but who never put their own shoulders to the wheel nor do anything whatever to help it come.

"If I were to attempt to tell you of the troubles that daily and hourly beset the service of books in those long years when the National Library was piled up in the Capitol, I should have to pour out upon you literally a whole Iliad of woes. I will only touch lightly the ungrateful theme, for after our long and weary struggles in that wilderness, we have at last reached the promised

land. Fancy to yourselves your situation if required to put 600,000 volumes into a space whose utmost capacity for shelves was only 300,000. Picture to yourselves the librarian and his assistants, daily piling up the overflow in each department of the library, for the classification was kept up all the time, so that the accessions lined the floors everywhere near their related books upon the shelves. See them receiving by every mail a new flood of books, pamphlets, periodicals, musical compositions, engravings, prints, chromos, and photographs, to be added to the enormous mass, swollen by constantly arriving auction purchases of books from American or foreign sales, and by selections from the new books of the day not due the library by copyright. This went on year by year, until we were literally snowed under, only our snow was of a kind that never melted nor diminished, but kept on falling evermore. There we were, hourly engaged in endeavoring to construct out of our literary chaos some approximation to a cosmos. And in the midst of it all were the incessant calls of Congress and the public for books and information which required immediate search in the ever-growing piles of accessions to find what was needed. If the right books were not found by an assistant, I went for them myself, and, aided by memory of size or color of binding (for nearly every book added had passed through my hands), almost invariably found the work required.

"Is it any wonder that the absolute and pressing need of a library building was urged upon Congress? This was done year after year in the reports of the Librarian, setting forth the woeful distress of the situation, only too apparent even to casual observers; much more evident to those in Congress (few and far between) who took interest enough in the condition of its library to inspect it. While the joint committee of both Houses on the library were always earnest champions of a new building, there were others, high in influence and station, who opposed it. A distinguished Senator, Chairman of the all-powerful Committee on Appropriations (who has since departed this life), was one day in the library, when I took occasion to represent to him in few words the necessity of prompt and timely provision for the Nation's books, which were suffering increasing injury, besides unduly hampering and delaying the use of them by Congress and the reading public. He fended off the subject by insisting on the much greater need of some internal improvements or public works which he hoped to see provided for at that session, and said that all provisions for a library building must wait two or three years yet. 'But what shall

we do with this ever-increasing flood of books in the meantime?' I inquired. 'Put 'em under the bed,' was the dignified reply.

"Another still more distinguished Senator, who vigorously opposed every bill providing for a separate library building, proposed and advocated a scheme for relieving the overcrowded library by shelving the inner concave surface of the Capitol dome, which might thus be honeycombed with books from the space above the pictures in the rotunda to the apex. This brilliant and original scheme, if carried into effect, would have accommodated less than twelve years' growth of the Library, and would, moreover, have immeasurably increased all the difficulties of its daily service. But some statesmen, like the eloquent departed one referred to, are quite impervious to any figures of arithmetic, being too much enamored of their own figures of speech.

"The Library building, however, was carried through Congress at last by the triumphant majority of more than two-thirds, both in Senate and House. Long as it was waited for, fifteen years being consumed in opposition, disagreements, and postponements, it passed finally in such terms as to secure a much more ample, as well as more beautiful, structure than would have resulted from much earlier action. Congress had been gradually educated up to larger views of what a National Government Library really means. Yet they viewed the result with surprise at its magnificence, for they had literally builded wiser than they knew.

"One of the numerous vexations that interrupted my proper work as Librarian was the immense burden of copyright business. I had no right to complain of this, for I had brought it upon myself by recommending to Congress, in 1870, the transfer to the library of all copyright records, whether past or future, as the sole effectual means of securing the books to which the United States Library was entitled by law. Still, it proved a steady and increasing drain upon my vitality and time, and sorely tried a patience which I had once deemed inexhaustible. I could not delegate the countless questions arising of what, among the manifold printed articles coming in, were lawful subjects of copyright and what were not; for such decisions must be uniform, and must emanate from the sole responsible head. Then arose legal questions without end; such as claims of exclusive property in a noun or an adjective by mere copyright entry; or endeavors to convince the hard-headed librarian that a label of Pears's soap was not an article of manufacture, but a literary production; or some other ingenious attempt to evade the patent laws and fees. The great

case of infringement of copyright in the Encyclopedia Britannica by American reprints consumed much of my time and more of my patience, for I had to be examined and cross-examined by opposing counsel, who made a courtroom of the library for days, or of so much of it as they could be squeezed into, while examining my records of copyright.

"On one of these days a peculiarly aggravating counsel for publishers, who had perverted my plain statement with persistent effrontery, pressed me to give over again an explanation that I had just made as clear as sunlight. I thought it was time to check his impertinence, and merely answered: 'I can only say to you, sir, in the words of Dr. Johnson to similar demands, when his interlocutor professed not to understand, "Sir, I have found you an argument; I am not obliged to find you an understanding."' This penetrated even the thick skin of the pettifogger, and the examination proceeded with less waste of words.

"We librarians, if not too busy to observe (as nearly always happens), have rare opportunities for the study of character. As no two faces are alike among the myriads of the earth's population, so no two readers have identical ways or personal characteristics. The many-sided men and women that come and go under the eye of the library attendants are objects of interest in proportion as they exhibit freely the quality of their minds. There is the alert, positive person, with quick, decisive air, who asks in the fewest words for what he wants, and expects to be served instantly. There is the slow, deliberate plodder, who moves as if he had all eternity before him in which to possess himself of his coveted book. There are nervous persons, and persons utterly without nerves; modest and retiring people, almost afraid to ask, lest they trouble you, and brusque, almost brutal, persons, whose very manner would knock you down if you were not superior to all annoyances.

"There are two classes of readers who are specially to be commended to your care: The ones who are ignorant of everything and the ones who are cocksure of everything. You know what to do for the former, and can guide them by easy steps into the elements of knowledge. As for the latter, you have to be more careful, for there is no ignoramus so difficult to help or instruct as the ignoramus who thinks that he knows it all. You should begin by mildly insinuating not that he is mistaken—oh, no—but that there are facts which may possibly have escaped his attention. Then you can proceed to put before him such illustrative matter as you

know is pertinent to the topic in hand. Assure him, further, that if he does not find what he seeks you will produce other authorities. Treated thus diplomatically, the sciolist may often find out for himself his errors, and, if not wholly beyond hope, may learn more modesty and less assurance from the lesson you have given.

"You will find that among the most delightful of library occupations is the perusal of sale catalogues of books. It opens a wide and suggestive field of information as to prices and editions, at the same time that it exercises the memory as to what books you already have in the library, what you have long wanted to acquire, and what prices you have previously seen quoted for the same books. Thus every new catalogue becomes a study in comparative library economy, as well as an aid to that mental classification of your knowledge which goes on continually.

"A librarian is almost daily asked what this, that, or the other book is worth (meaning in money), and while the annual 'Book Prices Current' which have come to our aid during the last ten years sometimes help us to auction values, their use is limited by the restriction that no sales are reported of books bringing less than £1 in the London and $3 in the American book sales. When you have no precedents to guide you in the wide field of books that are out of print (which includes a great majority of what have been printed), you can inform the inquirer that the book is worth what it will fetch at auction, according to the Hudibrastic axiom:

> For what is worth in anything
> But so much money as it will bring?

"I have always made a practice of marking every auction catalogue as received, checking in the Americana and some other departments every book not known to be already in the library, and after due search of the card-title drawers by assistants, affixing limited bids to be sent out. The appraisal for these bids is to be made by finding the original published price from the Bibliographies of the country in which it appeared, and bidding half or two-thirds of that figure, at discretion, according as the book is more or less wanted, or to knowledge of other probable chances of buying it.

"The Library of Congress has been largely built up by auction purchases, and this, if judiciously managed, is one of the most economical means of recruiting any library. When one hears of the enormous prices paid for certain book rarities at public com-

petition, and concludes that in these days book collecting must be confined to millionaires, he does not consider that multitudes of books at these same auctions were sold at $1 a volume, but, of course, went wholly unrecorded. When I see that a (Denton's) 'Brief Description of New York' (1670), sold last year at $2,000, though only a little pamphlet of twenty-one pages and two leaves, or that a 'Titus Andronicus,' of 1611, brought $3,100 last month in London, I am tempted to offset these preposterous figures by telling of my purchase of the great folio, 'Grand Atlas,' of Blaauw, 540 colored maps, in twelve volumes, bound in bright, original vellum, at $1 a volume, at a Boston auction, or of twenty years of 'The Philadelphia Daily Press,' well bound, at $1.20 a volume, at an auction sale in Philadelphia.

"One of my persistently recurring experiences has been to be questioned by newspapers or other periodicals as to who, in my opinion, were the greatest poets or novelists, or what were the ten best or three best books of the year. This I always considered a comparison of literary merit without any warrant in sense or reason. It is an attempt to grade the creations of the mind by a mere mathematical standard, instead of a metaphysical one. It undertakes to measure off dry goods, by a yard-stick, or take the comparative weight of pigs or cattle, at so many pounds avoirdupois. Who knows which of two romances so totally unlike as 'Henry Esmond' and 'Les Miserables' is the greater novel? It would be quite as reasonable to ask if the planet Mars is more impressive than the planet Venus, or to demand of us whether a lily is more beautiful than a rose. Each has its own merits and each its own defects. If I am asked to pronounce whether 'David Harum' is the greatest novel of the age, I might reply that I see no greatness about it, except its great sale and great slang, and that the verdict of the next age will probably be that it is not literature at all.

"For this class of questions it is well enough to respond that it is not possible to measure literary merit by arithmetical standards, and that judgment on the relative value of authors is respectfully declined.

"Some years ago came out lists of what were naïvely denominated 'the hundred best books,' and Sir John Lubbock in an unguarded hour put his name to a selection, many of which would make angels weep. Then that keen critic, John Ruskin, after tearing Sir John's list to shreds, a thing not at all difficult, produced a list of his own special favorites, some of which neither

gods nor men could well endure, if required to read them through. Individual judgments will always be found of small value, because colored by the idiosyncrasies of the judges, or the unduly deep impression made by some certain books read in certain moods or at certain periods of life.

"Librarians are constantly asked what is the best encyclopedia, or the best history of the United States. I reply that there is no work of superlative excellence in either field; that all have certain merits and all palpable defects, developed on close investigation. Then the inquirer is supplied with the volumes that are in most request, and invited to examine them side by side. Indeed, it is hazardous to award to any book unqualified commendation, and one of the most frequent remarks to be made to the librarian's customers is, 'We don't warrant our goods.'

"Finally, my friends, let us not sit down in easy unconcern and felicitate ourselves that a library millennium has arrived, or is about to be ushered in. Such a golden age is not yet ready to dawn, even by the aid of the Carnegie millions. The library of the future must depend upon something more than money—its real foundation is man's immortal mind—that commanding power which is regnant over lands and seas—

Whatever clime the sun's bright circle warms.

"Let me remind you that to most readers the librarian and his aids are even more than the library. Its widest usefulness comes from the skill and promptitude with which you are able to satisfy every want, to answer every inquiry, and to open every avenue to knowledge.

"In a very true sense the function of the librarian does not yield in importance to any of what are called the learned professions. We do not unduly magnify our office when we say that it, and it alone, has for its mission to gather and to dispense all the learning of the world.

"You will find plenty of cavilers to undervalue the work that is done in libraries and to claim that newspapers do far more than books to promote the public intelligence. Never believe them. While the ephemeral brood of the journals goes spawning on, and each day's output is quickly read and as quickly forgotten, the great thoughts that are garnered up in books remain evermore, inspiring and quickening the world of readers, generation after generation.

"There are no creations of the mind so influential or so permanent as the masterpieces of literature that are found in libraries. And there is no sphere of human effort more practically useful than the preparation of those keys to knowledge which we term Bibliographies. He whose careful, unremitting labor furnishes the means of unlocking to all any of the vast stores of science and literature is a public benefactor. To this high mission you are dedicated. You have for incentives all that can appeal to generous minds enlisted in the great cause of human enlightenment. You have rare opportunities to study both the theory and the practice of the art which you have chosen. The day is not distant when all that you are now learning will aid you in achieving that to which every one should aspire—I mean a signally useful career.

"And when our mission on earth is ended, and our work done; when the frost comes to the head and the furrow to the cheek; when this human life, so rich in promise and performance, so full of labor and of fruition, shall close for each one of us, may we find others worthy to take up and carry forward the duties that we lay down, worthy to transmit the ever-growing heritage of knowledge to the ages that are to follow."

SANITARY SCIENCE.

A SYNOPSIS OF SANITARY SCIENCES AS REPRESENTED IN THE SANITARIAN, ALPHABETICALLY.*

By THE EDITOR.

Babcock, J. F. Warming, i, 300.

Babcock, R. H., Baths and Gymnastics, xxxiii, 195; Some Points in the Management of Consumptives, xxxix, 89; Altitude and Heart Disease, xliii, 27.

Babcock, S. E., Aeration of Water Supplies, xxi, 227.

BABY'S SOLILOQUY is a suggestive text to mothers and nurses: I am here. And if this is what they call the world, I don't think much of it. It is a very flannelly world and smells of paregoric awfully. It is a dreadful light world, too, and makes me blink, I tell you. And I don't know what to do with my hands; I think I'll dig my fists in my eyes. No, I won't. I'll scrabble at the cor-

* Continued from previous number.

ner of the blanket and chew it up, and then I'll holler; whatever happens I'll holler. And the more paregoric they give me the louder I'll yell. That old nurse puts the spoon in the corner of my mouth in a very uneasy way, and keeps tasting my milk herself all the while. She spilt snuff in it last night, and when I hollered, trotted me. That came of being a two-days-old baby. There's a pin sticking in me now, and if I say a word about it, I'll be trotted or fed; and I would rather have catnip tea. vi, 30.
Babies, Clothing of, xxiv, 138.
Babies, The Health of, xlv, 163.
Babies, Russian, xi, 406.
Babies' Troubles, ix, 552.
Baby Carriages and Bicycles, ix, 186.
Baby Farms, xliii, 120.
Baby's Cereal Food, Analysis of, iii, 46.
Bache, R., Dietaries of the Slums, xlii, 105.
Bachelor Girls, How Live, xlii, 561.
Bacilli, The Influence of Varies with Age, xxxviii, 450.
Bacilli and Telephones, xxxiii, 82.
Bacilli in Telephones Harmless, xliii, 63.
Bacilli in Salt Water, xx, 502.
Bacilli Coli Communis, Report on, xlv, 500; Methods of Determining the Presence of, 500.
Bacillus Icteroides, Sanarelli's, xliii, 247.
Bacillus, Pseudo-Tubercular, Mayo, xliv, 453.
Bacillus Influenza, xxiv, 175.
Bacilli Tuberculosis a Hundred Years Ago, Farquaharson, xiii, 375.
Bacillus of Typhoid Fever, xi, 614.
Bacillus of Tuberculosis, H. C. Ernst, xiii, 465.
Bacillus of Cholera, in Contact with Tobacco, Vernicke, xxxiii, 167; Bacillus Pyocyaneus, Death by, Adami, xxxiv, 212; Bacilli Tuberculosis in Cigars, 247.
Bacon and Butter—Ideal Food for Consumptives, Bell, xliv, 385.
Bacteria in Diseases of the Eye, xxi, 571.
Bacteria in Water, Smart, xxii, 490.
Bacteria in Drinking Water, Migula, xxviii, 52; In Graveyard Soil, xxxv, 148; in Mineral Waters, 296.
Bacteria, Pathogenic, Origin and Sources of, Smith, xxii, 110.
Bacteria, The Relation of to Disease, xxiv, 253.
Bacterial Culture for Diagnosis of Diphtheria, xxxii, 208.
Bacteria, Purifying Sewage by, Lockwood, xxxiii, 217.

Bacteriology in India, xxxv, 293.
Bacteriological Laboratory in Vermont, xlii, 179.
Bacteriologists' Meeting in New York, xxxv, 153.
Bacteria in Nervous Diseases, Knapp, xxxvi, 562.
Bacteriological and Chemical Section, A. P. H. Association, xliii, 526; xlv, 500; xlvii, 444.
Bacteriological Light, xlvi, 516.
Backyard, That, xi, 226.
Bacon and Ham, xiv, 480.
Bad Air, v, 110.
Bad Odors—Hunter's Point, ix, 181.
Bad Room to Sleep In, xi, 747.
Bailey, C. I., Typhoid Fever Results from Filtered Water Compared with Previously Unfiltered, xlii, 410.
Bailey, T. H., Malarial Diseases in Putnam County, N. Y., v, 456; Water Poisoning as a Cause of Disease, iii, 97.
Bailey, E. H. S., What Is Aerated Bread? xxxvi, 502.
Bailey, F. K., Ventilation of Churches, iv, 120.
Bailey, W. W., Collection and Preservation of Plants, iii, 203.
Balch, L., Relation of Physicians to Boards of Health, xx, 303.
Baird, G., The Destruction of Night Soil, xvii, 334; Sanitation in Street Paving, 324.
Baker, D., Powers and Duties of Board of Health, xxx, 22.
Baker, H. B., Michigan State Board of Health, iii, 268; Warning of Disease, iv, 289; Relations of Schools to Diphtheria and Similar Diseases, ix, 68; Systematic Study of Causes of Disease and Death, 346; Relation of the State Board of Health to Corrections and Charities, xi, 33; Prevention and Restriction of Cholera, xiii, 107; Relation of the Depth of Water in Wells to Typhoid Fever, xv, 97; The Introduction of Dangerous Diseases, xvii, 61; Relation of Certain Meteorological Conditions to Acute Diseases of the Lungs, xix, 229; Recent Advances in State Medicine, xxi, 289; Relation of Certain Meteorological Conditions to Diseases of the Lungs and Air Passages in Colorado, xxvi, 306; Prevention of Disease and Death, xxx, 509.
Baker, Dr. H. B., and the Michigan State Board of Health, xlv, 469, 533, 534.
Baker, L. W., Sanitary Supervision of Public Schools, xi, 598.
Bakers, Vital Statistics of, xxxvii, 470.
Bakeshops in New York and Brooklyn, xxxvi, 550.
Bakeries, Filthy and Glazed Bread, xlvi, 352.

Bakeries, Sanitary Inspection of, xl, 101.
Baking Powders, H. A. Mott, Jr., viii, 263.
Baldness, The Pleasures of, xxiv, 415.
"Balked at the Crossing," ix, 458.
Ballard, E., Characteristics of Disease Caused by Eating Pork, ix, 548.
Balloon, Across the Atlantic in a, xlii, 478.
Balsam Bough, the, At the Sign of, xxxv, 477.
Balch, L., Health Interests of Albany, xxx, 481; *et al.*, Aggressive Sanitation, xxxii, 193.
Baltimore, Health Report, vii, 325.
Baltimore, a Healthful City? Why Is, Cathell, xxxv, 41.
Banana Flour, Production of, xlvi, 407.
Banana Peel, The Little, Burdett, xi, 91.
Bananas, Some Facts About, xxxvii, 68.
BARBER SHOP AS A MENACE TO HEALTH, A. Walter Suiter.—A pioneer and singularly potent paper worthy the attention of all patrons of barber shops, if they would avoid common dangers and make good use of their observations for the benefit of their fellow-patrons, xli, 235.
Barbour, G. M., Cleaning of Santiago, xliii, 8.
Barkan, L., The Most Important Antisepsis, xx, 530.
Barnard, C. T., Utilizing Sewage, ii, 295; The Sewage Question, 344.
Barnardo Home for Children, xxxvii, 284.
Barnardo's Work, xxxvii, 478.
Barnes, A. C., Glycerinized Vaccine Lymph, xliii, 425.
Barnes, H. T., Sewerage Systems, xiii, 208.
Barnhill, I. U., Ptomaines and Poisoning by Tainted Food, xviii, 258; The Cadaveric Alkaloids, xx, 417.
Barracks, Sanitation of, Notter, xxiv, 555.
Baruch, H. B., The History of the Public Rain-Bath in America, xxxvii, 299.
Bashore, H. B., What Shall We Do with the Old Well? xxxv, 304; Disposal of Waste in Country Places, xxxvi, 213; Village Sanitation, xxxix, 315; How to Heat a Village House, xl, 122; Hygiene of the Stable, 404; Mistakes of Small Towns, xli, 324; Sources of Impurity in Country Houses, xlii, 495; Pollution of Streams in Pennsylvania, xliv, 289; The Danger to Public Health in Default of Rural Sanitation, xlv, 97; Rural Water Supplies, xlvi, 294: Some Phases of River Pollution, xlvii, 193; Hygiene of the Trolley, 504.

Bartlett, E. A., Comparative Prevalence of Typhoid Fever in Different Cities, xxv, 469.

Bartlett, H. C., Chemistry of Dirt, vii, 450.

Bartlett, H. L., Thermometrical Notes in Disease, ii, 283-285; A New Departure in Hydrophobia, 317; New Theories of Disease, 361; Physical Culture, 460, 492, 546.

Bartlett, W. R., Diseases in Country Houses, v, 410; Hygiene of the Individual as Related to the Nation, vi, 241; Doctors, vii, 412; Individual Work as Related to Health Boards, viii, 247; Special Advantages of the Earth Closet, xi, 697.

Bartley, E. H., Drugged Beer, xviii, 423; Sewer-Air Diseases, xxi, 224.

BATH, THE, ITS NECESSITY AND ADAPTATIONS, A. N. Bell.—"To thoroughly appreciate the utility of the bath, it is necessary to understand the structure and the functions of the skin—the medium through which it acts," which it is the endeavor of this paper to comprehend, and proceeds to the consideration of all sorts of baths, from the baby tub to the surf, medicated and mud; Roman, Russian and Turkish; packing and rain; private and public; introductory to, and calculated to intensify interest in, many other papers on the same subject, xxvii, 514.

Baths, The Public, The System of, Brown, xlv, 36; Introduction of in New York, 67; The Cost of, xlvi, 159.

BATH, THE MODERN RAIN, William Paul Gerhard, C. and San. E.—A technical description of the rain bath, describing its construction and adaptations in detail, xxxii, 312.

Baths, Free Public, Provided by Law, xxxiv, 519.

Baths, Their Necessity, Their Influence in Economy, the Dangers They Present and the Method of Preventing Them, Mendizobal, xxxv, 521.

BATHS, PUBLIC RAIN, THE INTRODUCTION OF IN AMERICA, Harry E. Fisk.—An elaborated paper lucidly illustrated, exhibiting the methods of application and the detail of the most recently constructed rain baths in New York, their appurtenances, supervision and patronage, xxxvi, 481.

BATHS, THE PUBLIC RAIN, MORE ABOUT, Moreau Morris.—An account of the efforts made for the introduction of public baths in New York before the advent of the public rain bath, from time to time, for a series of years, by the Charities and other organizations, and particularly of the progress made by the "Committee of Seventy," during Mayor Strong's administration, in 1895, for the establishment of Public Comfort Stations and public baths and

lavatories in New York, to be open all the year round—the revival of an effort begun by the Association for Improving the Condition of the Poor, with reference to the "rain bath," who erected and opened the first rain bath in America, August 17, 1891, xxxvii, 3; Essential to Public Health, *Ibid.*, 197.

Baths, The Public Rain, History of in America, H. B. Baruch, xxxvii, 299; S. Baruch, xxvii, 514; xxxv, 83.

Bath, Death Rather Than Have a, xliii, 384.

Bath, Baby's Portable, xxiv, 561.

Bath, Improved Kind of, xxxix, 327.

Baths Are Scarce, Where, xxxvii, 449.

Baths, Public, "Not Needed in Albany," xli, 26.

Baths, Public, Preventive of Disease, Shepherd, xxxix, 177.

Baths, Public, in Venice, xv, 120.

Bath Tub, Improved Babies', xxiv, 561.

Baths of Hercules, x, 395.

Baths for German Miners, xxxvii, 202.

Baths in Boston Public Schools, xlvii, 312.

Baths, More Free Public Required, xlvii, 347.

Baths Under the Bridge Arches Suggested, xxxix, 259.

Bathing, viii, 567; Safety to Life in, Peck, xi, 526.

Bathing, Surf and Swimming, Holland, xxxix, 226.

Bathers' Cramp, xxxix, 231.

Battery Baths, v, 381.

Battle & Co.'s Battle with the Counterfeiters, xxviii, 571.

Baudery, I. K., Insomnia, xiii, 446, 541.

Bayles, Geo., Disposal of the Dead, ii, 97.

Bayles, J. C., Sanitary House Drainage, iii, 49; Waste and Soil Pipes, 125; Distilled Water for Druggists, iv, 44; Excellence in Plumbing Work, 305; Sanitary Engineering, 553; Old Oaken Bucket, viii, 38; Should Dwelling Houses Be Plumbed, xvii, 529.

Beach, W. M., Contagions and Epidemics in America, xiv, 388.

Beard, G. M., Writers' Cramp, vii, 299.

Beardsley, C. E., Address, Ohio State Sanitary Association, xiv, 385; Syphilis from a Sanitary Standpoint, xviii, 205; Should Syphilis Be Made a Legal Bar to Matrimony? xx, 445.

Beardsley, G. L., Medical Objection to (the Abuse of) Dancing, xxxii, 138.

Beasts, The Law of, Greenwood, xxxix, 480.

Beauty of Man, xi, 281.

Beckwith, D. H., Scientific Standard for the Safety of Illuminating Oils, xviii, 247; Adulteration of Food, xix, 49; Cholera, Its Prevention and Limitation, xx, 433.

A. N. Bell.—An historical sketch of beds and their placement among all nations and by all sorts of people and personages, from time immemorial to the present, according to custom, condition and necessity; and the circumstances which render them healthful or otherwise, xxxii, 97.

Bedding Supplies, Geo. J. Kindel.—A brief but very important designation of the dangerous stuff of which mattresses and other bedding are made. "Near New York City is manufactured to-day (Oct. 2, 1895) a shoddy rag comforter that is sold in every city in the United States. Shoddy (rag) mattresses are manufactured in every city of 100,000 inhabitants." xxxv, 488.

Bed Clothes Made of Paper, xv, 53.

Bed Sores, Prevention of, xxiii, 87.

Bed Sores, The Treatment of, Smithwick, xlvi, 43.
Beef, Embalmed, xlii, 46.
Beef Peptonoids, xxi, 164.
Bechler, W. H., Use of Oil to Still the Waters, xxii, 385.
Behring's Diphtheria Serum, Cordeiro, xxxvi, 29.
Beer, Consumption of, xlv, 71.
Beer, Dangerous, Bartley, xv, 311.
Beer Drinking, Bad Effects of, iv, 23.
Beer, Drugged, Bartley, xviii, 423.
Beer Poisoning Epidemic, The Arsenical, in England, Crawford, xlvi, 408.
Beers, W. G., The Snow Cure, xiv, 248.
Being Dead Yet Liveth, xxvii, 34.
Belladonna, xxxii, 183.
Belfort, R., The Land of the Lily and the Rose, xxxvii, 392.
Bell, A. N., The Practical Sanitarian, as Illustrated by a Life Sketch of, Stephen Smith.—An outline of the rise and progress of sanitation and sanitary reform in modern times, and A. N. Bell's relation to and participation therein; introduced by a sketch of Dr. Bell's previous devotion to sanitary studies while a medical officer in the Navy, by which he became practically familiar with the conditions promotive of preventable diseases under the various conditions of locality and climate in different parts of the world; his contention with such diseases and his successful efforts in overcoming them, xxviii, 481.
Bell, A. N., The Sanitarian, i, 2; Bread, Tests and Adulterations, 145; New York Quarantine Establishment, 22; Defective Drainage, 530.—Waste of Life, ii, 145; Perils of the School-Room, 433; Brain Culture, 539.—Hemlock Poisoning, iii, 117; Yellow Fever and Quarantine, 314; School-Room Stunting, 410.—Relation of Medical Editors to the Medical Profession, iv, 309; Relation of Unsanitary Conditions to Pauperism, Vice and Crime, 400.—State Board of Health of New York and Some of the Reasons for It, v, 132; Hygiene of Passenger Vessels, 145; Tuberculosis in Milch Cows and the Contagiousness of Tuberculosis by the Digestive Organs, 337; Pauperism, Vice and Crime, 511; Cellars, 558; Pavements, 562.—Garden City, vi, 107; Unsanitary Conditions of Schools, 172; Long Island and Rapid Transit, 279; Electric Lighting in Its Sanitary Aspect, 407; Wash Basins and Water Closets, Illustrated, 556.—Quarantine, vii, 68; Perils of Education in New

York and Brooklyn, 82; Disinfection with Heat, 433; Marine Hygiene and the Prevention of Epidemic Diseases by Commerce, 481.—Quarantine of the Future, viii, 82; Inspection of Steamboats and Other Vessels, 102; The National Board of Health and Its Adversaries, 221; Unsanitary Engineering and Architecture, 304.—Relation of Certain Filth Diseases to Cold Weather, ix, 78; Cellars, 310.—How Complete Is the Protection of Vaccination, and What Are the Dangers of Communicating Other Diseases with the Vaccinia, a Prize Essay, x, 161.—Money Burdens of the Industrial Classes, xi, 641; Infant Asylum Epidemic, 694; Sanitary Inspection, 145.—United States Marine Hospital Service and Quarantine, xii, 324; What Shall Be Done with the Sewage, 1.—Essential Conditions of Epidemic Diseases, xiii, 493; The Truth About Stimulants and Narcotics, 289; Ventilation and Warming, 193.—Cholera and Small-pox, xv, 288; Care of the Teeth, 543.—Disinfection of Imported Rags, xvi, 539; The Plumbers, 121; Typhoid Fever in Brooklyn, 157.—Tea, xvii, 312; Sea-Side Home, 68; Sanitary Service on Board Emigrant Vessels, xviii, 550.—Steam as a Disinfectant, xix, 217; New York Quarantine, 433; Medical and Sanitary Service on Board Emigrant Ships, 526.—Observations on Yellow Fever and Its Habitudes, xxi, 498.—Malaria and the Causes of Fever in New York, xxii, 432; Crystal Brook, 538.—Influence of an Ocean Atmosphere on a Staid Population, xxiii, 217; Object Lessons in Sanitation, 392; Physical Conditions and Sanitary Requirements of School Life and School-houses, 329, 415, 533.—Chocolate and Cocoa, xxiv, 409; Stamina, 130.—The Bath, Its Necessity and Adaptations, xxvii, 514.—Ocean Atmosphere, xxvii, 478; The Bath, 514; The Beneficence of Disease, 193; The Truth About Vaccination, 328, 548.—Cholera and Its Contention at the Port of New York, xxix, 376; Maritime Sanitation, 540; Need of National Legislation for the Protection of Human Life, 3; Practical Sanitation *vs.* Detention, 309; Quarantine and the Marine Hospital Service, 496; Rags and Cholera, 552; Stone the Banks Gowanus Canal, 136; Governor's Veto of Needful Measures of Health Protection, 46.—Classification of Mineral Waters, xxx, 261; Mineral Waters, 129; Climate and Mineral Waters of Georgia, 337; Climate and Mineral Springs of North Carolina, 521; National Quarantine Law, 281; New Quarantine Bill, 80; as Amended, 163; Pine Forests and Mineral Springs

of South Carolina, 415.—Climate and Mineral Springs of North Carolina (continued), xxxi, 47; Mineral Springs of Virginia, 51, 151, 289; Pestilential Conditions, 356.—Beds and Bed-Rooms, xxxii, 97; Mineral Springs of West Virginia, 336; of Maryland and Delaware, 517; of New Jersey, 444; Aggressive Sanitation, 193; A National Board of Health, 230; Nuisances, 33.—Sanitary Topography and Mineral Springs of Pennsylvania, xxxiii, 3; of New York, 210, 239.—Long Island Water Basin, xxxiv, 322.—Topography, Climate and Mineral Springs of the United States, xxxv, 12, 118, 234, 326, 425, 528.—Evolution of a National Health Service, xxxvi, 346; Topography, Climate and Mineral Springs of Alabama, 102; of Massachusetts, 505.—Drunkenness a Vice, It Should Be So Treated, xxxvii, 311; Topography, Climate and Mineral Springs of Connecticut, 223; of Rhode Island, 104.—The Bane of Practical Sanitation, xxxix, 450; Topography, Climate and Mineral Springs of Michigan, 113; of Minnesota, 321; of Wisconsin, 205; Yellow Fever, 359, 450, 545; National Bureau of Health, xl, 123; The Windward Islands, 26; Non-Contagiousness of Yellow Fever, 497.—Recurrence of Yellow Fever, xli, 58; Newtown Creek Nuisance, 59; Stable Nuisances, 79; Microbes, 160; Yellow Fever and the Army, 162; The Quarter-Century of Sanitary Work, 1873-1898, 193; *Errata,* That First Dose on Being Attacked with Yellow Fever, 256; The Camp Epidemics, 256; Santiago de Cuba—Typical Yellow Fever Nest, 261; "As Bad as Cuba," 272; Yellow Fever Prevention, 354; The Camps—Who Is Responsible? 357; Army and Navy Medical Officers and Supplies, 357; "What Do I Get Out of It?" 358; The Yellow Fever in the South, 451; Quarantine, 452; Patent Diphtheria Antitoxin, Behring's Defense, 455; Quarantine Requirements, 551; A National Bureau of Health, 553.—Oceanic Health Resorts, xliii, 385.—Bacon and Butter, xliv, 385; A Pork Inquiry Supplemented, 389; Stamina, 539.—The Prevention of Tuberculosis, xlvi, 484.—Fomites and Yellow Fever, xlvii, 302.—And numerous editorials throughout, indexed by title only.

Bell, Clark, N. Y. Medico-Legal Society, ii, 385; Valedictory Address, iv, 31.—Inaugural Address, Medico-Legal Society, x, 193; What Is the Duty of the President in the Case of Guiteau? 475.—Inaugural Address, xi, 106; Progress of the Science of Medical Jurisprudence, 123.—Address of Welcome,

xliv, 421.—Medical Jurisprudence in America in the Nineteenth Century, xlv, 438, 517.
Bell Bill, The, xlvi, 478.
Bell, Geo. N., Hygiene of the Dwelling, xvi, 151; Public Streets and Highways, xxviii, 385.
Bell, H. K., The Progress of Infectious Diseases, xxvii, 70, 168, 261, 364, 469, 563.—Status of Sanitation in the United States, xxviii, 68, 150, 258, 364, 470, 549; ditto Monthly in succeeding volumes.
Belladonna, Posology of, Gillet, xliv, 145.
Bellevue Hospital Medical College Faculty, ix, 187.
"Beloved Physician," The, the Rev. Dr. Lock, xxxvi, 92.
Bemis, S. M., Exotic Origin of Yellow Fever in Louisiana, xi, 613.
Benedict, A. L., Sanitary Science and Indecency, xli, 109.
Benefactress, A Burdensome, xxxvii, 286.

BENEFICENCE OF DISEASE, THE, A. N. Bell.—An effort to counteract the popular error that disease is an independent, active principle or entity, the result of sin—a penalty for the transgression of some physiological or sanitary law—which is identified with the punishment of our first parents for partaking of the forbidden fruit; a belief which, logically considered, without any conception of organic structure, would imply that man was intended to occupy this world forever. It gives the gist of the constitution of the human organism; of man's cosmopolitan nature and free-will agency in relation with, and to contend against, conditions and circumstances, animate and inanimate, amid which he is placed and upon which his health and life more or less depend; and purports to show that disease, instead of being a penalty or punishment for transgression, is of two-fold significance—an admonition of danger and a sentinel on the threshold of future existence. . . . That disease and its conditions are no less constant than, indeed, that they participate in, the physical phenomena of the universe, and form no exception to the Divine arrangement of natural phenomena. . . . That the uncertainty of the issue in any disease, however slight in the beginning, is evidence of its merciful object. Had it been instituted simply as the road to death, it would have been uniform and certain in its course. Its benefit is to be obtained by endeavoring to discover its nature and dependence, how it may have been avoided and how its recurrence may be prevented as long as possibly consistent with the human organism, and, finally, by a meek submission to the Divine will, xxvii, 193.
Benefits of Sanitation, Chas. Kelly, viii, 357.

Benjamin, D., Relation of Temperature to Health in Dwelling Houses, xviii, 124; Relation of Drinking Water and Typhoid Fever, 511.
Bermudas, The, i, 392; In Winter, ii, 113; v, 42, 93; vi, *22*; Health Statistics, xi, 172; xxv, 457.
Bermuda and the West Indies, xxxi, 570; xxxiv, 471.
Bennett, T. J., The National Sin of Omission, xxxii, 523.
Bennett, W. H., Dust and a Polluted Atmosphere as a Cause of Chronic Catarrh, xxviii, 516.
Benton, J. B., Defective Drainage, i, 554.
Berger, M., Benign Tumors, xxxiii, 58.
Berkshire Hills, The, Thayer, xxxii, 512.
Beri-Beri, Deland, xxxiii, 304.
Berlin Board of Health, iv, 477; Tenement Houses, De Kay, xxxv, *222*.
Bert, Paul, Trichiniasis Abroad, xiii, 16.
Bertin-Sans, Emile, Institute d'Hygiene, ix, 411.
Bertillon System, National, xlv, 474; System of Classification, xlvi, 75.
Bermingham, E. J., Hygiene and Diet for the Pulmonary Invalid, xl, 193.
Bertelli, S., Yellow Fever Prevention, ix, *272*.
Best Education, xx, 528.
Beta-Naphthol, xxii, 570.
Bethlehem, What One Sees at, xlii, 94.
Better Than Sewerage, Richard McSherry, viii, 481.
Beverages, Potable, xxix, 456.
Biggs, H. M., *et al.*, Prevention of Consumption, xxiii, 59.
Biggs, H. M., Preventive Medicine in New York, xxxix, 385; How Three Thousand Lives May Be Saved in New York, xlvii, 161.
Beyer, H. G., Sewage Disposal, x, 1.
Bhowani, the Cholera Goddess, Hankin, xxxvii, 410.
Bible, The, How It Came Down to Us, xl, 93.
Bible Statistics, xxxi, 467.
Bichloride in the Placenta, Christian, xliv, 454.
Bicycle, Across Asia on, xxxii, 570.
Bicycles, viii, *229*; xi, *276*; For Women, In Relation to Health, xxxvi, 475; Bicycle Reformers, xxxvii, *472*; Bicycle in Its Sanitary Aspect, Gihon, 353; Bicycles, The Real Secret of the Popularity of, 187; Bicycle Accidents, xxxix, 176; Bicycle for Women, Bissell, xxxiv, 90; Levels all Distinctions,

xxxv, 92; A Doctor's Views of Bicycling, 95; Mendelsohn, xl, 331; Bicycling in Relation to Heart Disease, Getchell, xliii, 31.
Big Invention, Lloyd's Map, ii, 524.
Bile, Antitoxic Action of, xl, 159.
Bill, A, for the Establishment of a National Sanitary Bureau, i, 11.
Bill for New York State Board of Health, viii, 136; For a National Board of Health, xiv, 63.
Bills of Particulars, xxxi, 271; Bills That Ought to Pass, xl, 254.
Billings, John S., Hygiene of the U. S. Army, iii, 215; Conflicting Theories of Quarantine, viii, 81; National Board of Health, 299; Practical Sanitation, ix, 4; The International Health Congress, xiv, 180; Vital and Medical Statistics, xxiv, 97, 316, 419; Objects, Plans and Needs of the Laboratory of Hygiene, xxviii, 294.
Bintiff, James, Homes for the People, viii, 445.
Biologists, Present Attitude of Toward Natural Science, Conn, xlv, 242.
Biometry, Moreau Morris, iii, 178.
Birds, Nutritious, xliii, 94.
Birdwood, The Plague and Its Local Conditions, xliii, 96.
Birkenbridge, J., Rainfall and Water Supplies, xix, 130.
Birkinbine, J., The Welsbach Light, xlvi, 146.
Birth Rate, the English, xlii, 278; In Europe, xliii, 182; In France, Decrease of, 276.
Birth-Rate, Decrease of in Europe, xlv, 474.
Birth, Seven Children at a, xliii, 363.
Birthday Party, v, 170.
Birth-Rate, Low, The Influence of a, xxxi, 274.
Bismuth, Sub-nitrate of, Poisonous, xxxviii, 542.
Black Death, xxxvii, 556; xl, 188; xlvii, 349.
Biscoff, E. Petrie, Sewage Disposal System, xi, 226.
Biter, The, Bit, xliv, 17.
Black Eye, xxiii, 88.
Black, J. R., "Taking Cold," ii, 116; Health of the People, 408; Public Health Reform, v, 1; Hygiene and Therapeutics, vi, 498.
Black Sea, The, From, to the Persian Gulf by Caravan, xxxi, 478.
Boiled Hammers, ii, 197.
Bladder, A New Operation for, xxi, 569.
Blair, H. W., Aid to Common Schools, x, 449.
Blake, W. H., Sanitation of Prisons, xliii, 114.

Blakie, W., Decline of American Stamina, xxiii, 56.
Blame for the Sufferings—Lack of Medical Supplies, xli, 380.
Bland Diet, Senator, xlvii, 494.
Beeyer, J. M., Colored Rays of Light—Treatment of Tuberculosis, xliv, 506.
Bleim, Milton J., Climate and Children, xxxvi, 333.
Blind Persons in New York, v, 288; Proportion of to Population, R. R. McIlvane, 160.
Blindness in Finland, xliii, 535.
Blindness, Prophylaxis of, Pinard, xlvii, 452.
Blizzards, The Abolition of, xvi, 328.
Blood, A Simple Test for, xxii, 190.
Blood in Rheumatism, Changes in the, xxviii, 469.
Blood Poisoning by Retained Secretions, xiii, 174.
Blood, Portal Passage of, Into the General Circulation, xxiii, 178.
"Blood Is Thicker Than Water," xxxiii, 184.
Blood Purifiers and Nerve Tonics, xxxvii, 426; Blood Rendered Imputrescible, 444; Blood Serum in the Treatment of Yellow Fever, xliii, 166.
Blue-Bottle Flies, Two, xvi, 396.
Blyth, A. W., Action of Disinfectants on Microzoids, xv, 524.
Board of Experts on Yellow Fever and Cholera, vii, 132.
Boards of Charities, State, Letchworth, xxx, 151.
Blount, W. F., New State Health Officer of Texas, xli, 366.
Bogart, E. S., Personal Experiences with Cholera in Japan, xxix, 311.
Boils, Carbolic Acid in the Treatment of, xxiii, 89.
Boas, M. L., The Jackson County (Ind.) Poorhouse, xiv, 152.
Board of Health as an Investment, xi, 67.
Board of Health—How Can the Medical Profession Aid? Bryant, xix, 531.
Boards of Health, vii, 355; Reports, Monthly, in Every Volume; Board of Health, A National, xxii, 150; Boards of Health, Local, and Sanitary Condition of Public Institutions, Improvement of, Report, xxii, 230; Boards of Health, International Council, xli, 84; Board, Local Government, The New Medical Office of, xliv, 37; Boards of Health, Powers and Duties of, Judge Darius Baker, xxx, 22.
Boers, The, A Character Sketch, xliv, 286.
Bolton, Circulatory System of Sewage, xlvii, 195.
Bombay, The Plague in, Haffkin Serum, xliv, 56.

Boiling Springs, The Dangers of, xxi, 568.
Bonny Clabber, xi, 452.
Bonny, S. G., Observations Upon Tuberculosis in Colorado, xxxix, 26; Early Diagnosis in Consumption, xliii, 17.
Boobbyer, P., *et al.*, House Drainage and Sewerage, xlii, 26.
Books, Your, Keeping Track of, xlvii, 189.
Book Scorchers, xliv, 479.
Books, Owning, xlvii, 208.
Borax as a Cholera Preventive, Cyon, xvi, 27.
Borax and Borax Soap, v, 281, 524.
Borden, W. C., Vital Statistics of an Apache Indian Community, xxxi, 224.
Borgias, The, of Our Kitchens, iii, 390.
Boric Acid as a Food Preservative, xxxviii, 407.
Borland, E. B., The Danger of Contagion in Street Cars, xxxvii, 508.
Booth, G. C., New York Tenement Houses, x, 606.
Boiled Water for School Children, xxxiii, 180.
Bolton, B. M., Vitality of Pathogenic Germs, xl, 206.
Bone-Boiling Establishments, xl, 100.
Bottle, She Used the Wrong, xlvii, 453.
Bouisingault, M., New and Stale Bread, xi, 328.
Bogus Diplomas, vi, 142.
Boston Hospitals Receive Bequests, xxxiv, 527.
Boston City Garbage, xxxi, 82; Health Service, xl, 263; Public Baths, xlii, 249.
Boston's New Sewers, ix, 509; xii, 353, 173.
Bosworth, F. H., Hay Fever, xv, 52; Lymphotism, xxvii, 351.
Bottler's Dream, A, xi, 392.
Bottles for Poisons, xliii, 71.
Boxers, The Growth of, xlv, 281.
Byle, J., American Jam in England, xlvi, 425.
Boulden, J. E. P., Cholera—Its Cause and Prevention, i, 362.
Bovine Virus, Pure, The Necessity for, Parker, xv, 231.
Bovinine, xxxiii, 376.
Bovine Tuberculosis, Curable, Watson, xli, 497.
Bowditch, E. W., Atlantic Coast Health Resorts, xi, 177, 202, 213; Sanitary Inspection of Newport, R. I., 529, 545.
Bowditch, H. I., Heights and Weights of School Children, iii, 201; Presidential Address, A. P. H. Association, v, 322; National and State Sanitation, xi, 6.
Boyce, P. H., House Atmosphere, or Artificial Climate, xix, 231.

Boylan, G. D., The Mine, xxxix, 348.
Byland, G. H., Isthmian Salubrity and Panama Canal, viii, 442; Panama Canal Sanitation, x, 602.
Bowditch, V. Y., Sanitary Treatment of Pulmonary Diseases, xxxiii, 97; Subsequent Histories of Arrested Cures of Consumption, xliii, 21.
"Boys, Read This"—How a Boy Got a Place, ii, 19.
Boys, Training for, Scovill, xliii, 296.
Boys and Their Mothers, iii, 345.
Boyle, Godfrey, Epitaphium Chymicum, xii, 535.
Boylston Prizes, xiii, 168.
Bowditch, H. P., Vivisection Justifiable, xxxvii, 229.
Bowditch, E. W., Dry System of Soil Disposal in Schools, xli, 544.
Bracken, H. M., A National Home for Lepers, xliii, 528; Car Sanitation, xlv, 485; Quarantine Methods, 494; Animal Diseases, 504; National Leper Home, 508.
Brackett, Anna C., Punishing Children, ix, 306.
Brackett, C. F., Regulation of Moisture in Rooms, xi, 714.
Bradford, Sewerage of, Meeker, xxxv, 58.
Bradford, E. H., Health of Rowing Men, v, 529; School Seats, xliii, 429.
Bradley, E. M., *et al.*, Infant Asylum Epidemic, xi, 694.
Bradley, J. P., The Old Roman Life Tables, xviii, 47.
Brains of Criminals, Evidence of Insanity in, E. C. Spitzka, x, 406.
Brain, The, and Moral Culture, xxiii, 349.
Brain Work, xi, 811.
Brain, The Galvanizing of, Leduc, xliii, 56; The Galvanic Currents on, Frank, xliv, 354.
Brain Work, Fallacies About, Matthews, xlvii, 496.
Brain Mischief, Over-Pressure in Children, Causing, xxix, 459.
Brandeis, L., Defective House Drainage, i, 447; The American Aladdin, ii, 35; Traps and Trapping, 73; Health of the People, 408; Common Dangers of House Drainage, 412; Air and Light, iii, 228; Impurities in Drinking Water, 92; The Kentucky Shower of Flesh, iv, 222; The Hydra, xii, 358.
Brannan, J. W., Phlegmandus Angina and Its Treatment, xxxi, 43.
Bread, Adulteration of, v, 71.
Bread, Clean, xlv, 344.
Bread, Glazed, Filthy Bakeries and, xlvi, 352.
Bread and Butter Question, xxxii, 185.

Bread, De Chaumont, vii, 125.
Bread, Tests and Adulterations, A. N. Bell, i, 445; Brown, White and Whole Wheat, xi, 487; New and Stale, Bouisingault, 328; Viennese, xii, 219; Nourishing, xiii, 60; Musty, Smith, xvi, 329; Bitter, xvii, 162.
Bread Making, Science in, xxvii, 358.
Bransford, J. F., Panama Canal Sanitation, x, 672; Sanitary Notes on the Nicaragua Canal, xi, 113.
Brantigan and Edilma, How to Recognize Horse Flesh, xxxiii, 168.
Brazil, Movements of the Population, Climate and Diseases of the Chief Cities, Corbally, xviii, 55.
Bread Made with Soap, xxxii, 20.
Bread, The Microbes of, xxxiv, 123.
Breakfast in the Old Days, xxxvi, 188.
Bremen, Sewerage and Drainage of, Keenan, xxxv, 109.
Brainard, Cephas, The Relation of the Law and Medicine to One Another and to the Public, vi, 270.
Breath, Offensive Odor of, xxii, 548.
Breathing of Foul Air, Effects of, v, 553.
Brennan, T. M., School Hygiene, xxxiv, 202.
Brewer, W. H., The Gases of Decay, iv, 547; Relation of Modern Health Boards to Material Prosperity, viii, 491; Action of Muddy Water on Sewage, ix, 118; Sewers as Life Protectors, xii, 518.
Brett, J., Daylight in the Dwelling House, xxx, 401.
Brick Tea, Baker, xxviii, 251.
Bricon, P., Cholera Parasites, xi, 632.
Bridgman, The Spirit and the Flesh, xliii, 383.
Bright's Disease, The Induction of Premature Labor in, xxiii, 183; Hygienic Treatment of, Chiron, xxviii, 144.
British Congress of Tuberculosis, xlvii, 84.
British Continental Society, C. D. Acts, ix, 92.
British Emigrants, ii, 369.
British Empire, vi, 118.
British Mercantile Marine Service, xi, 280.
British Local Government Board, Report of Medical Officer of, xxxi, 456.
Bromidia, xviii, 192; As a Hypnotic, xx, 473; As a Sedative, Bellomi, xxxiii, 171; In Epilepsy, xlii, 352.
Broadbent, W., Prevention of Consumption, xlii, 193.
Bromides, The Toxic Properties of, xxviii, 145.

Bromo-Chloralum, vi, 140.
Bromide of Strontium, Elimination of, xxix, 155.
Bromides, The Use of, Stêrling, xxxviii, 350.
Brooks, Erastus, What the State Owes the People, ix, 15; The Food We Eat, xiii, 537; Bronco-Pneumonia, Gillet, xlii, 437; Bronchitis, Infantile, Artificial Respiration in the Treatment of, Heerman, xlvii, 449.
Brouardel, M., Poisoning by Sulphuretted Hydrogen, xvii, 212; Measures Adopted by Different Nations for the Prevention of Consumption, xlvii, 213.
Brooklyn and Brooklyn Schools, ii, 135; Brooklyn's Increase of Preventable Diseases, 373.—Annual Reports, iv, 135, 378; Brooklyn Nuisance, 283; Brooklyn Seaside Home, Jerome Walker, 417; Brooklyn School-Houses, Philo, 447, 557.—Brooklyn and Her Precincts, v, 372, 379, 421; Brooklyn's Calamity—Burning of Theatre—42; Brooklyn's Rink for Roller Skating, 287.—Opposition to Health Protection, vi, 42; Board of Health, 262; Brooklyn's Annual Stench, 282; Drinking Water and Hempstead Filth, 322; Health Authorities, 414; Rapid Transit.—Vaccination Fund, vii, 137; Sewers, T. P. Corbally, 166.—Health Department, ix, 184.—Diphtheria Nests, x, 235; Health Department, 183; Mortality for 1881, 570; Public Schools, 111; School-Houses, Unsanitary Condition of, 373.—Public Education, xi, 410; Improved Prospect for Public Schools, 205; Stifling Schoolrooms, 797; Vital Statistics, 29.—New Health Commissioner, xvi, 458.—Public Education, xxi, 251.—Health Department and the "Yellow Fever Case," xxiii, 66.—Disgraceful Nuisances, Corbally, xxix, 131; Stable Nuisances, 273.—Some Sanitary Attractions of, Illustrated, E. C. Angell, xxx, 392; Stable Filth in, 167; "The Attack Upon"—How Can Cholera Be Prevented? 443.—Brooklyn in the Face of Some Examples and Sewage Disposal, Corbally, xxxi, 3.—Chronic Nuisances, xxxii, 466; xxxiii, 550; Water Supply, 179.—Most Infamous Nuisance, xxxiv, 74; Vital Statistics, 154; Aversions and Nuisances, 76.—Epidemic of Diphtheria, xxxv, 543; Water, Impure Source of, 334.—Maintenance of Diphtheria, xxxvi, 551.—Bad Water Supply, xxxvii, 332; Purification of, 451; Reservoirs, Clearing Out, The, 533.—Brooklyn's Water Supply and Its Impurities, xxxviii, 248, 353; Brooklyn Day at Nashville, 544.—Water for, xliii, 63; Excessive Death Rate of Children,

170.—Tenement House Population, xliv, 60; Water Supply, 148; xlv, 252; Water Works, 206.
Brooks, J. G., Factory *vs.* Workshop, xliv, 113.
Brough, D. B., Formaldehyde in House Disinfection, xl, 520.
Brower, D. B., Medical Aspects of Crime, xliii, 193.
Brown, S. M., Diseases of the Nervous System Affected by Climate, xxxix, 21.
Brown, A. P., Address, xiii, 71.
Brown, G., The System of Public Baths in New York City, xlv, 36.
Brown, J. M., Naval Museum of Hygiene, xii, 38.
Brown, John Mills, Obituary, xxxiv, 71.
Brown, H. P., Advantages and Disadvantages of Electric Lighting, xxiii, 45.
Brown, Glen, Trap Syphonage, xviii, 41.
Brown, C. C., Method of Making Sanitary Investigation of a River, xxxi, 138.
Brundages, A. H., Necessity of Physical Education, xvi, 501.
Brüssels Sanitary Report, xi, 718.
Brush, C. F., Dirt and Dirty Milk, xl, 406.
Brushes, Cheap Tooth, Dangerous, xxxi, 413.
Bryant, A. P., Dietary Studies in the United States, xliii, 129.
Bryant, J. D., How Can the Medical Profession Aid the Board of Health? xix, 531.
Bruce, C. E., *et al.*, Aggressive Sanitation, xxxii, 193.
Brunner, W. F., Disinfection of Vessels at Ports of Departure, xliii, 43.
Bryan or McKinley, xlv, 477.
Bryce, P. H., Decomposition of Albuminoid Substances, xvii, 351; Present Position of the Milk-Supply Problem, xxvii, 509; Water Pollution and Purification, xxxv, 412; Infectious Diseases, xli, 419; Place of the State in Dealing with Tuberculosis, 113; Presidential Address, A. P. H. A., xlv, 481, 499; Survey of Public Sanitation in the Nineteenth Century, xlvi, 3.
Bryn, H., Sanitaria for the Treatment of Tuberculosis in Germany and Switzerland, xxxviii, 427; Tubercle Bacillus, xxxix, 289; Sanitaria for Tuberculosis, xl, 491; Cause and Prevention of Infectious Diseases, xliii, 519; Vital Statistics of Infants, xliv, 409.
Buchanan, Sir George, Proposed Memento to, xxix, 454.
Buck, E. W., Infantile Diarrhœa, xv, 393.
—, Chinch, Snow, xxvii, 510.

Building Ground, E. M. Hunt, xi, 481.
Buenos Ayres, Vital Statistics, xxxix, 83; xl, 78.
Bubonic Pest in Hong Kong, Martin, xxxiv, 171; Bubonic Plague, The, xlii, 551; The Quarantine, xliv, 54; Bubonic Plauge Abroad, xlvii, 180; Stamped Out, 372.
Builders and Contractors, Decency Required of, xi, 603.
Building Material, Dennis, xxxviii, 417.
Buffalo International Fair, xxi, 456.
Buildings, High, and Safe Elevators, xxxviii, 44.
Building Improvements, Sykes, xlii, 13.
Bulkley, L. D., Soap, Its Quality and Uses for the Toilet and Diseases of the Skin, iv, 178; Climate in Skin Diseases, xliii, 24.
Burdette, R. J., The Little Banana Peel, xi, 91.
Burge, J. H. H., Infant Diet, iv, 268.
Bureau of Hygiene and Sanitation, Columbian Exposition, xxx, 93.
Bureau of Medicine and Surgery, xiv, 184.
Bureau of Health, A National, Bell, xii, 553.
Bureau of Vital Statistics, New York, iv, 85.
Burning Oils, vi, 288.
Bullard, F. W., Christian Science—Divine Healing and Osteopathy, xliii, 349.
Butler, N., The Higher Education and the American Life, xliv, 97.
Burnham—Ventilation and Cleanliness in the School-room, xliii, 292.
Burns and Scalds, John Morris, ii, 409.
Burns and Scalds, Walter Coles, iii, 79.
Burns, Cocaine and Lanoline for, xxii, 38.
Burns, Milk Dressing for, xxxix, 258.
Burial Permits and Inspection of the Dead, xix, 417.
Burial Reform, Porter, xxi, 519.
Burying the Dead, New System of, Mayer, xi, 184.
Busey, S. C., Vegetables and Fruits, iii, 1; Washington's Polluted Water Supply, xl, 385; Sanitation of Washington, xlii, 205.
Business, A Brisk, xxxvii, 324.
Butchery, Jewish and Christian, Dembo, xxxv, 64.
Butler's Analogy, xxxv, 562.
Butler, G. R., Pulmonary Diseases, xxxiii, 47.
Butt, The Rev. John, "I Thank You," iii, 82.
Butter, Artificial, Sanitary Qualities of, Ludlow, xix, 306.
Butter, Detection of Beef Fat or Lard in, iii, 93.
Butter, Fishy, in Australia, xlvii, 272.

Butter, Keeping in Hot Weather, xi, 329.
Butter Test, xi, 798.
Buttermilk, xi, 393.
Bureurs de Petrole, xlii, 531.
Byrne, J., The Hygiene of Children's Sleeping Apartments, xlv, 392.

RECENT SANITARY PATENTS.

685,020.—Disinfector for Flushing-tanks, J. H. Venners, Brooklyn, N. Y.

685,149.—Heating and Ventilating Apparatus, James Keith, London.

685,493.—Ventilation of Water-closets, William H. Stilwell, Binghamton, N. Y.

685,645.—Water Purifier, John J. Rose, Brooklyn, N. Y.

686,602.—System of Drainage, Sewerage and the like, Joseph P. Monty, Sandy Hill, N. Y.

686,425.—Invalid-lifting and Moving Device, Heinrich Sommerfeld, Canton, Kan.

686,855.—Disinfectant, Process of Making, W. T. Kendrick, Montgomery, Ala.

686,954.—Garbage-can Receptacle, Frank Riley, Philadelphia.

687,515.—Garbage-treating Apparatus, Rufus E. Boschert, Syracuse, N. Y.

687,656.—Smoke-consuming Furnace, Gustav Schneider, Berlin-Schonberg, Germany.

688,090.—Sanitary Incinerating Closet, William S. Hull, Hinds County, Miss.

688,234.—Water Closet, Schuyler C. Brown, Saratoga Springs, N. Y.

688,487.—Insect Destroyer, John A. Roberson, Ardmore, Ind. Ter.

688,596.—Smoke Consumer, Almerin S. Cook, Chicago.

688,721.—Water Purifying, Alfred Derveaux, Brussels, Belgium.

THE SANITARIAN.

MARCH, 1902.

NUMBER 388.

FARM SANITATION.*

By C. A. LINDSLEY, Secretary of the State Board of Health of Connecticut.

I am to talk to you of "Farm Sanitation." My theme scarcely involves a consideration of sanitary methods of agriculture. I shall not be expected to describe any hygienic way of planting potatoes or plowing your corn, although I may have something to say of the sanitary ways of treating your live stock. But I assume that the topics upon which you expect me to speak relate more particularly to your homes—your house and its surroundings—and to your domestic life. We think of the interior of the house as the home. The many hours of the day spent within doors and the closer intimacy of the family while in the house make it the very center and heart of home. That is sufficient to emphasize the importance of giving attention to its sanitary condition. There is, too, a permanency and stability about the farmer's home that in these latter days scarcely pertains to any other class of citizens. The tendency to the centralizing of populations in cities and the consequent condensation of communities in temporary lodgings, in parts of houses, in flats, in boarding-houses and in clubs, and, again, the incessant activity of commercial and manufacturing enterprises, with the social and financial fluctuations incident thereto, are all impediments to a settled family life, and more and more is it true that parents rear families, flitting from place to place, without once establishing what could rightfully be called a home. The home of the farmer differs from that of the resident of the town, in being almost wholly independent of the co-operative action of his neighbors on many important concerns. He is not taxed in common with them for any elaborate sewer system or public water supply. His neighbor's cess-

*Read (by the Rev. John De Pew, in the absence of the author, on account of illness) at the annual session of the Connecticut Agricultural Society, in Bridgeport, Dec. 19, 1901.

pool is too far away to contaminate his well—his hog-pen too remote to offend his nostrils. In fact, the farmer makes in large measure his own environment. He is, therefore, individually more responsible for the sanitary situation about his dwelling than the occupant of a brick block on a city street. This fact has not been as generally appreciated as it deserves to be. The considerations which have controlled the farmer in the arrangement and disposition of those appurtenances to his house, which have always been found necessary, have been based upon accessible convenience rather than upon a just estimate of their relation to sanitation. The well is an absolute necessity, and its proximity to the kitchen an important matter. It matters not how near, if good water is available. Some place for the waste discharges from the kitchen and laundry is imperative. Frequent observation assures me that a slop puddle near the kitchen door, or a hole in the ground not far away, provides that accommodation. A small building, often called, as it is, a "necessary," cannot be too distant from the house to serve its purpose satisfactorily. The hogs must be fed, and as their food is largely from the refuse of the kitchen and dairy, the same idea of convenience often locates the hog-pen in too close proximity to the executive office of the establishment, the kitchen; and the swill barrel, which is a commissary department to the pig-sty, is too commonly beside the kitchen door. The barnyard and stables, with their accumulations of polluting material, may be more distant, but too often so located that the drainage from them is toward the house and well. It is not many years ago that the conditions I have described were not at all uncommon, and were not regarded as specially objectionable. I am happy to testify that they are growing less frequent. But it is worth while to inquire in what way they may influence unfavorably the health of the family. Four or five hundred years before Christ, Hippocrates, the father of medicine, announced the cardinal requisites of a healthy situation to be "pure air, pure water and pure soil." No one since has ventured to dispute his statement. You have read and heard a great deal about ventilation and the necessity of having the air in our houses renewed frequently. But there might be a doubt of the benefit of the change if the air we admit from the outside is laden with the unfragrant odors of the swill barrel, the cesspool, the privy and the hog-pen. It is true that offensive smells are not of themselves capable of causing smallpox or diphtheria, or other infectious diseases, unless they are associated with the germs of those diseases, but a bad air

of itself is depressing in its effect; it lowers the standard of health, diminishes the powers of resistance to disease, causes headaches, sore throats, loss of appetite and a general feeling of malaise. It is a direct violation of the principles laid down by Hippocrates and confirmed by the experience of more than 2,000 years. To enjoy the best health we must have pure air. In order to get a practical idea of the impurities in the house, it is only necessary to darken any room in your house after sweeping it and then admit a beam of sunlight through any small crevice in the window and note the myriads of floating particles made visible by that ray of light. This is commonly called dust, but a careful study of its true character determines that a large portion of this dust is, in fact, composed of living germs—microscopic organisms—bacteria. Scientists have a way of estimating their number in a given volume of air. By exposing in such a room for a few minutes a plate covered with any material upon which such germs will feed and grow (usually some preparation of gelatine in a moist condition) so that the dust as it falls upon it will adhere to it, then putting the plate aside, properly covered in a warm place, it will be found that these germs so planted will have grown so as to be visible to the naked eye. Each germ that has found lodgment upon the germ food will grow rapidly, and about it will be formed a colony of the same kind of germs. So by simply counting the colonies you fix the number of germs in the original planting. Now the number and character of such germs will vary under varying conditions. They will always be more abundant in the presence of decaying organic matter, which is the same thing as saying in the presence of hog-pens, cesspools, garbage heaps, swill barrels, etc., because such material affords their food. They are not all disease-producing germs, but if disease germs are present, they find already at hand the conditions best adapted for their propagation and multiplication. Another point about house air: It never is and never can be kept as pure and wholesome as the air outside the house. Every good housekeeper—which is the same as saying every Connecticut farmer's wife—knows how difficult it is to get the dust out of the house. Her practice is, periodically, to take all her carpets, rugs, curtains, cushions and movable articles of that kind out of doors and hang them on a line. The first blow of the broom handle or switch reveals in a cloud the quantity of dust they contain, notwithstanding while in the house they had been swept and dusted daily. What is the significance of this fact when you reflect upon it? You have had your doors open and

your windows open every day. You have tried to have abundant ventilation, and yet it is a fact that there is more dust in the air of your house than in the outside air. How can it be explained? The solution of the mystery is simple. Your house is an air filter. During the night, or at any time when the house air is still, the dust brought in from without settles by gravity upon whatever surfaces it falls upon. It attaches itself so closely upon loose textures and fabrics of every kind that it is not dislodged by an inflow of outer air. The ventilation which you have practiced, although indispensable to health, yet has added each time its quota to the accumulation of dust already there. Your attempts by sweeping and dusting to clean the filter have been but an imperfect and partial success. Hence I repeat that the house air is never so pure as the air out doors; and also the importance of providing that the atmosphere that surrounds your house shall be as much as possible protected from impurities.

Let us turn now for a brief consideration to another of the essentials of health, claimed by Hippocrates—a pure soil. As that is so intimately connected in its sanitary relations with pure water, we will discuss them together. All the water which is used for domestic purposes comes from the clouds. When the rain falls upon the earth it disappears in three ways. Some of it is evaporated from the surfaces it has wetted; some of it is rapidly absorbed in the interspaces of the ground, and what is not disposed of in these ways runs upon the surface in the direction of least resistance, and forms rivulets, brooks and rivers, and finally reaches the ocean. With the last mode of disposal, we are at present only concerned, when it may occasion the pollution of the farmer's well or cellar by the drainage from his barnyard, his pigsty, etc. What I desire particularly to call your attention to are the impurities in the soil caused by soakage into it of the filth accumulated in the ground by the special accessible conveniences which have been provided by the farmer's personal direction; to wit, the cesspool, the privy, the slop puddle, etc.—that is, the filth produced in the process of housekeeping and purposely deposited in the ground immediately about the house. From an ordinary family of five or six persons, it would amount to several tons annually. It is a question of serious import whether or not this gross contamination of the ground, close about his dwelling, may affect his health. And if so, how? When the farmer digs a post-hole, unless the weather has been very dry, he finds the soil below the surface to be moist. If he digs a larger hole and deeper,

he comes in time to a depth where as fast as he removes the earth the cavity fills with water. This is called ground water, and he has dug down to its level. Anywhere at that level he will find the same condition. This ground water is the water that percolated through the strata of soil above it until has reached an impervious stratum below. In short, he has dug a well, and the water which constitutes the well has soaked through the ground above it. Now water is the most universal solvent known in nature. If it passes through a portion of soil highly contaminated with filth, it will dissolve a portion of such filth and hold other portions in suspension, and so the ground water is liable to be polluted by the same filth as the soil through which it has passed. Just here it is proper to call your attention to the difference which results from the different ways of putting filth in contact with the soil. If the filth is applied upon the surface, or only a few inches below the surface, not in masses, nor in excessive quantities, it will speedily be disposed of without being in any way injurious to health or offensive to our senses. A French scientist once filled a bottle with dry garden loam. He first made a little hole in the bottom of the bottle. Then he slowly poured into the bottle a quantity of very dark, bad-smelling effluent from a dung heap. After a while it began to leak through the little hole in the bottom of the bottle, and he was much surprised to find it free from odor and almost free from color. A remarkable transformation had occurred in the offensive liquid which he had poured into the bottle.

The State Board of Health of Massachusetts, by the experiments on the purification of sewage which it has been conducting for several years, has explained the mystery. All organized matter which has been endowed with life, whether animal or vegetable, eventually dies, and the substance of which it was composed becomes disorganized and resolved into the original elements of which it consisted. It has been determined that at the surface of the ground, where waste material would most naturally be found, nature has provided an army of scavengers, innumerable in number and microscopic in size. They inhabit the few inches of the soil immediately below the top, where some degree of light and the atmosphere can penetrate. They are some of the many forms of bacteria. They seize promptly upon all dead organic matter and disintegrate and tear its constituent elements apart, using such as they need for their own maintenance and setting free the rest in such form as to be available for the use of other living things; that is, as food for new organizations.

Under these conditions decomposition of organic matter takes place inoffensively, and practically without soil pollution. That is one form provided by nature for the disposal of filth, or the decomposition of dead organic matter. A very different process follows if filth is deposited in masses so deep in the ground that the light and air are excluded and where the little scavengers before mentioned cannot live. The dissolution and disintegration, however, take place just as certainly, but under the action of other kinds of bacteria. This latter form of decomposition is called putrefaction, and in a sanitary sense is exceedingly objectionable. The mass of matter becomes liquefied and putrid, generating disgusting and noxious odors and numerous solid, liquid and gaseous products, which permeate the soil and produce poisonous results dangerous to human health. It is said that ptomaines produced by putrefaction are as active and dangerous as any poisons known. This sort of filth disposal always takes place in cesspools and privy vaults. When the filth is stored in masses underground, shut out from air and light, putrefying action, with its consequent products, is inevitable. The putrid liquids fall by gravity to the water level and pollute the water of your well. Professor Vaughn has said that bad water has killed more people than bad whiskey. The gases find their way to the surface and mingle with the atmosphere. But there are conditions when their ready escape upward is prevented. This is particularly true when the ground is frozen and impervious. This is the common situation during Connecticut winters. But down below the frost in your filth pits the production of toxic gases goes right on unhindered, seeking an outlet somewhere, the nearest and most available being the cellar of your house. That is not frozen. There is no impediment to the passage of gases through its bottom, nor to their continuous passage up through the rooms above. The air in the house being warmer than the outside air, the house acts as a chimney to the ground air, and, as we say of a chimney, it draws well and sucks in the defiled ground air from a space all around the house. Thus our putrid filth pits become another very serious source of house air pollution. It should be remembered that about one-third of the space above the level of the ground water is occupied with air. It is also true that the ground breathes. It inspires air from above and exhales it again through its surface. In the winter time, when the outdoor ground is frozen, the chief breathing places are the cellars of our warm houses. Through the warm cellars and still warmer rooms

of our dwellings the vile vapors generated in the subterranean storehouses of corruption find exit, while the solids and liquids from the same sources sink downward to contaminate our wells. These special and peculiar contrivances, so well adapted to produce an impure air, impure water and an impure soil, are devices of our invention and construction. Now, if the pale horse and his rider enter our homes, and our loved ones are borne to their last resting place, with what propriety can we reverently say it is the dispensation of an All-wise Providence? The minister may offer consolation in the words: "Whom He loveth He chasteneth." Loving friends may resolve that: "Whereas, it has pleased Almighty God to remove," etc.; but is not such language a libel upon the loving kindness and wisdom of the great Lawmaker? And is it not more in accordance with the facts to recall the words of Moses to the rebellious Israelites: "Behold, ye have sinned against the Lord; and be sure your sin will find you out?"

The late Col. G. E. Waring said the most objectionable of all unsanitary conditions "about isolated buildings is the noisome and death-dealing cesspool, which is, facile princeps, the great sanitary curse of the country." The unsanitary conditions which I have described in terms not too emphatic are, in the present light of sanitary science, inexcusable and, in many cases, criminal. There has been many a grief-stricken family where should have been written on the death certificate homicide or suicide as the contributory cause. There is no practical difficulty in protecting a well or spring from surface drainage. It is an unpardonable offense against the established laws of health to permit the existence of a cesspool on a farm whose broad acres afford ample facilities for the safe and profitable disposal of sewage. The privy vault is a disgraceful relic of a past and more barbarous age when even a privy was unknown and the public street was the common receptacle of all manner of refuse and filth. It is evident from what has been said that the salubrity of our homes is eminently dependent upon good air and good water, and that good air and good water depend upon our own attention to protecting both air and water from exposure to impurities. It is a law of nature that "every living thing, be it plant or animal, is injured if its own excretions be allowed to accumulate about it." Science has shown how nature has provided for the prompt, successful and safe disposal of waste material by a proper application of it to the surface of the ground, and how she punishes us for permitting the accumulation of dead organic matter in masses

underground, by the development in such masses of products poisonous and dangerous to life. There are many other subjects pertaining to farm sanitation of which I might speak did not time forbid.

Much might be said about the proper location and construction of the farmhouse, with some pointed remarks about the false economy of little bedrooms. The rooms in which so much of the time of the farmer's family is spent should be large, because in small rooms the air becomes rapidly polluted with the exhalations from their persons.

The subject of milk production is of the highest sanitary import. An eminent sanitarian has said: "Milk is a deadly drink." And on the other hand, it is recognized as the most indispensable of all articles of diet. There is nothing approaching its value as a substitute. And, again, it contains more germs than any other natural liquid. It has been the means of spreading many fatal epidemics. There are many other topics closely associated with the sanitation of the farmer's house. It is within the opportunity of the farmer, far beyond the ability of the city resident, to make his home a model one in a sanitary sense, and a realization of what was in the poet's mind when he wrote "Home, Sweet Home."

The strongest attachments to home are found among those whose boyhood and youth have been spent upon the farm. To such the word "home" always calls up memories of the old kitchen and its great fireplace, the old keeping room and its old-fashioned furniture, and the good old folks. There is an influence exerted by the home upon the character of the boy and the youth that is permanent, and a guiding factor in all his after life. This, I think, is specially true of the home on the farm. It will be realized if we look about upon the leading men who are most prominent as merchants, manufacturers, professional men, scientists, statesmen and soldiers, and observe how large a proportion of them have graduated from the farmer's home.

ANTAGONISM OF FORCES.

There is in every quart of milk which is allowed to stand twenty-four hours or more before it is used a conflict of bacteria similar to the struggle for existence everywhere in nature.

It is like the struggle of plant life in a field left uncultured for years. Bacteria find their way into milk the same as seeds into

soil. The bacteria grow so fast and multiply so rapidly that in twenty-four hours they produce a larger number of generations than ordinary plants produce in fifty years.

"Some species grow rapidly for a while and are then crowded out by others; some which are small in numbers at first gradually gain a greater foothold. The results cannot be predicted. It is utterly impossible to tell by examining fresh milk what will be its condition in twenty-four hours.

The questions of where these bacteria come from, how they develop and which obtain the mastery over the others, are questions of immense importance to the dairy interests. They are of no less interest to the public health, for while some of these organisms are harmless and others beneficial, still others are injurious to health.

The bacteriological laboratories at Wesleyan and Storrs are actively engaged in the solution of some of these problems of the struggle between organisms so small that only the microscope can disclose them.—From address by Dr. W. H. Conn, of Wesleyan, at the Connecticut Board of Agriculture in Bridgeport, December 19, 1901.

Open-Air Treatment of Consumption in Germany.—Consul-General Mason sends from Berlin, November 18, 1901, a translation of a report by the Imperial Health Office on the successful results of the open-air treatment of consumption in Germany. Mr. Mason notes that the success of this treatment has caused the erection of a large number of establishments in Germany—60, with 5,000 beds, in the spring of 1901. In almost half the cases, the patients had been sick for less than a year before applying for admission to the institutions. The average duration of treatment was 92.4 days for each patient. Data as to the final results show that of each 100 patients treated 87.7 per cent. were discharged as cured or improved, 8.8 per cent. left unimproved, 3.1 per cent. were worse, and one-half of 1 per cent. died. The favorable results were in part due to a careful selection of cases suitable for treatment in the institutions.

REMINISCENCE OF YELLOW FEVER IN SAVANNAH AND THE RESULTS OF PRACTICAL SANITATION.

By J. C. Le Hardy, M. D.

My Dear Dr. Bell:

In sending you this reminiscence, I cannot let the occasion pass without conveying to you from those I meet in the Southern States, the high esteem in which they hold the editor of The Sanitarian. For, chiefly to your indomitable energy these many years, in the promotion of sanitary science, they attribute much of the light thrown upon the causes of the most destructive of epidemics. . . . They believe that but for the bravery of the few disciples of hygiene who have dared to persistently demonstrate against public tolerance that filth was the chief means of promoting the most fatal of our diseases, and cleanliness the only effective preventive, we should still be liable to the periodical visitations of bubonic plague (black death), Asiatic cholera (blue death), black vomit (yellow death), so destructive of human life in centuries gone by. For, strange as it appears, even to this day, a large proportion of mankind, even including civilized nations, still believe those diseases to be a scourge of God, sent to us in punishment of our sins, to be atoned for by prayers, penance, etc. Did we not see but yesterday, as it were, during the last epidemic of Asiatic cholera, in Spain, the infuriated population of villages, headed by the priest, rushing wildly about the streets with torches, hoping to find the physicians and burn them at the stake because they were trying to check the progress of the disease and save lives. But besides this superstitious ignorance, other obstacles impede the progress of sanitation. Just see how hard it is to obtain the money necessary to complete sanitary works calculated to reduce the mortality, to increase the longevity and improve the health! The most civilized and largest centres of population, both in Europe and America, are no exception to this rule. There is not a single large city in the world that can rightfully boast of possessing a perfect system of drainage, or where the best sanitary appliances are generally used. Thus it is that, to this day, the full benefits derived from scientific sanitation can only be approximated! Pity it

is that one of those great philanthropists who give millions to cure the sick in hospitals, etc., would not provide the means to lay the foundation for a healthful city, where a million or more souls could live without accumulating filth; the streets and yards to be covered with impermeable material, and washed regularly and automatically; the system of sewerage to be so perfect that not a drop of sewage could flow in a fresh or salt water stream before it has been purified; no house, stable, factory, public or other building to be erected unless provision be made to secure perfect cleanliness. A system of scavenging, to remove all refuse matter to a safe distance before it has time to ferment, should also be provided, as well as the laboratories and means to insure the proper inspection of food, food products and medicines. Of course this should be done beforehand, and, if possible, on virgin soil.

Another, and perhaps the most serious drawback to the progress of sanitation is found in the ranks of the medical profession. Physicians are to be found in every corner of this and other lands who are opposed to all kinds of preventive measures, under the idea that they cut their means of subsistence; others because they think the progress of epidemic and of contagious diseases can be controlled by means of quarantine, segregation, etc., while others put their faith in vaccination and anti-toxin. Again, and this under the searchlights of the twentieth century, we behold doctors of medicine, in solemn conclave assembled, proclaim far and wide, through the medium of the public press, that yellow fever (which for the past thirty years they had taught our people to dread as a most dangerous contagion, and against which the most rigid quarantine had been enforced in Southern ports), was caused by the bite of a mosquito! Under this discovery (?) it can no longer be a contagious disease, and therefore quarantine becomes unnecessary. From historic Rome and elsewhere we are also informed that to the mosquito bite malarial fevers are due.

All that is needed to prevent these diseases, they say, is to destroy the mosquito—and thousands of dollars have already been spent, not in drainage, but in finding some substance that will destroy the mosquito. Theories like these are calculated to relegate all sanitary work to a back seat and to bring about a condition of soil and air such as it was in 1853, when more than 30,000 persons died by the yellow fever. It would seem that before advancing such theories, now that the dreaded "Yellow Jack" has almost entirely disappeared from the United States and even Havana—through

sanitary measures—their advocates would at least investigate the records made at the time the disease was at its worst, or consult physicians who witnessed its progress and practiced in cities where it occurred in the epidemic form; for they would soon find that during the past 300 years every conceivable method has been used to get rid of the disease; that Boston and neighboring cities, where yellow fever had repeatedly occurred, were the first ones to get rid of it, not by killing mosquitoes, not by quarantine measures, vaccination or anti-toxins, but by cleaning their streets, yards and alleys, removing the accumulated filth and draining the surrounding lowlands. This they accomplished in the very first years of the last century. They would also find that it was principally at the instigation of the doctors, and by following the same methods, that Baltimore rid herself of the unwelcome visitor in 1818 and New York in 1822. That Philadelphia did not fare as well was because the medical profession was divided relative to the cause and origin of yellow fever (one party contending it was due to local conditions requiring local sanitary measures to eradicate it; the other that it was an exotic, a contagious disease, that should be kept out by rigid quarantine). The last epidemic there occurred in 1853, after which they improved their sewer system and their drainage. More rigid sanitary regulations were also enforced within the city. Norfolk had her last epidemic in 1855, after which her low lands were drained and cultivated. Charleston, where yellow fever was almost an endemic disease for more than a century, started the drainage and filling of her lowlands immediately after the epidemic of 1868, and while she was improving her sewerage system had a partial epidemic of the disease in 1871. Now the finest and most luscious strawberries are cultivated on land where it was fatal to stay even a single night. In Savannah, where I am living, the disease raged in a very fatal form during the summer and fall of 1854. I paid my first visit to study the disease. Practicing in the upper part of the State, I first stopped a couple of weeks in Augusta, where I was kindly initiated into the mysteries of the black vomit by the attending physicians. But in Savannah I found all the material I wanted—a full opportunity of watching its progress from house to house; of studying its every phase in the mildest as well as in the fulminating cases where the black vomit and convulsions would occur just a few hours after the initial chill, and in such cases the liver was found turgid with black blood—it had not had

the time to put on its yellow garb. I came to live here in 1856. The mortality was then excessive—32.36 per thousand. Every season, between August and December, cases of congestive, pernicious and yellow fever were met with. In the summer of 1858 an epidemic of dengue became general. Although the symptoms are very marked, the temperature high, the vomiting violent and long continued, the pain in every bone of the body almost unbearable, this disease *does not kill.* But early in September I met the first case of yellow fever, and we had a partial epidemic in about one-fourth of the city, the lines being well cut. In one of the narrow streets it spread to one side from the west, but did not cross on the east side. The mortality from this fever was 112 that year. Between 1858 and 1876 I saw cases of yellow fever in its sporadic form almost every season. In 1876 I treated about 650 cases during the epidemic.

In 1856 the sanitary condition of the place, and of its surroundings, was deplorable. Rice, cultivated in stagnant water, was planted on the western and eastern flanks of the city. There were no drains for rain water in the streets, so that stagnant pools would be found in every direction, where the water would soon turn green (algæ), and ill-smelling swamps and undrained, impassable lands extended to the very site of the inhabited portion. Almost everybody suffered from "chills and fevers." The malarial fevers cropped out early in April, long before the mosquito had started to sharpen his bill, and lasted often till the middle of December. Some little drainage was done and some storm water sewers put down before the war, but in 1869 the work of building brick sewers was started in earnest, and storm and soil water both were carried into the river by these sewers and open drains. The effect of this was at once apparent. Malarial fevers soon disappeared within the drained area. Rice culture was no longer permitted in close proximity to the city, and the mortality from all causes was thereby much reduced. The healthful condition of Savannah in 1875 induced the authorities to neglect the drainage, and the removal of refuse and cleaning the privy vaults was not properly attended to. During June, 1876, while intensely hot, eighteen inches of rain fell, filled up the reeking vaults, saturated streets and yards, and filled the cellars and every low place with stagnant water, which soon putrefied. Outside, the old rice fields, filled with rank vegetation, had been transformed into lakes, and the stench arising from all this was stifling. Cases of fever soon appeared. The severity of these fevers seemed to increase day by

day, so that in June black vomit was thrown up. In July sporadic cases of unmistakable yellow fever occurred, and it was spreading from three or four different foci, and on August 2 was declared epidemic. As is usual in this climate, the disease lasted about ninety days. There were about one thousand deaths from the fever and fully ten to twelve thousand cases.

Immediately after the disappearance of the disease the State Board of Health made an inspection of the city and suburbs, and urged upon the authorities of city and county the thorough drainage of the low lands, the abolition of the privy vault, a complete change in the sewerage and house drainage system. These recommendations have all been gradually carried out. The convict labor was put to the task of draining the low lands. The scavenger department was reorganized, the streets and yards kept clean, the reeking vaults emptied regularly, and finally abolished, when the separate system was finally established. As a result of all this work not a case of yellow fever has originated in Savannah since 1877, and none ever will again. Malarial fever in any of its types is rarely met with; the people are tidier, have more push and energy, and the mortality is reduced to 16.17 per thousand inhabitants; the little mosquito bites as viciously as it ever did, but it is far from being as it *was* in numbers. As all these changes have taken place under my own observation, and I can vouch for their accuracy, I thought they would interest you.

Very truly your friend,

Savannah, Ga., Dec. 17, 1902. J. C. Le Hardy.

THE PHYSICIAN AND THE PUBLIC SCHOOLS.*

By A. L. Wood, M. D., of Brooklyn.

I think more can be done to further the objects of the "Hundred Year Club" through the public school system than in any other direction. It is hard to teach old dogs new tricks, but the young dog learns easily and remembers what he learns. So it is with the human animal. The old as a rule learn new truths with difficulty, for they have the prejudices of a lifetime to overcome, while the plastic mind of youth readily assimilates new ideas, and

* Read at the meeting of the Hundred Year Club, New York, January 14, 1902.

is far more easily moulded and fashioned by them, and usually retains their impress through life. The hope of the future rests with and depends upon the children of the present, and it is education that must do the work of making them the strong, healthy, active, energetic, useful and long-lived men and women which they are capable of becoming under a proper system of training and education. I do not mean the education of reading, arithmetic, geography, grammar, etc. That is already provided for, and, important and necessary as it is, it is not as important to the future welfare of the race as a thorough knowledge of the structure, uses, care and development of the different organs and parts of the most wonderful of machinery in existence—the human body. In the words of the poet,

"Know thyself, presume not God to scan,
The greatest study of mankind is man."

The time to study man is in childhood, the place is the public school.

The body of the child should be trained, strengthened and developed to the highest degree, and all defects remedied. Not only this, but he should be taught how to take care of his body to preserve it free from pain and disease throughout a long, active and useful life. He should be taught the necessity of pure air at all times, and be provided with it and shown how to breathe aright—an art that few people properly understand. If the breath is not the life, it certainly is a very important part of it. The more we breathe the more we live, the better we live and the longer we live.

We should be taught the vital importance of the use of pure water and plenty of it, and should be provided with the purest distilled water to drink instead of the impure, disease-generating city water.

We should be taught how to eat, what to eat, when to eat, etc., to make the body and brain strong, healthy and enduring.

He should be taught the value and importance of cleanliness and physical purity. He should be provided with the means of learning them, and be required to properly and regularly use them. In short, he should be given thorough and practical instruction in all the laws of health and life.

How can all this be accomplished? Very easily and inexpensively compared with the immense good which would be accom-

plished by it. If this were done the utility of the present public school system would be more than doubled, and the health, usefulness, efficiency and length of life of the next generation most wonderfully increased.

Each public school building should be provided with a system of heating and ventilation which would give every pupil plenty of pure air at the proper temperature and without injurious draughts; with a liberal supply of pure distilled water for drinking; with a completely appointed gymnasium for the thorough physical training and development of every pupil, and, in connection with the gymnasium, a plain but practical and efficient Turkish and Russian bath, embodying the perfection of bathing for cleanliness and health.

To render this plan effective each public school must have a specially qualified medical director of general sanitation. Physiology, hygiene and physical culture should be taught, and to this end the school should be supplied with the necessary apparatus. The physician employed as medical director should be a man or woman of the highest ability and attainments, not as a dispenser of pills and powders, but as a teacher and trainer of the young in everything that makes a healthier and stronger manhood and womanhood. Every child when it enters school should be subjected to a thorough physical examination by the examining physician, who should be qualified by special training and experience in this particular field, to detect any and all imperfections in either the structure or function of all parts of the body. He should be provided with all the necessary scientific appliances for making such examinations and with the apparatus necessary to correct the deficiencies when found.

I boldly assert that there is not a child who has attended the public schools three years or more who has not some physical defect which could be easily remedied, or some local or general weakness which could be strengthened, and *all* could be greatly improved in health, strength and activity of body and mind by pursuing such a course as I have faintly outlined. Not only this, but their mental accomplishments in a given time would far transcend what they are at present.

If "The Hundred Year Club" can succeed in accomplishing this one object, and I believe it can do it in time, it will have proved the warrant of its existence a thousand times over.

THE UTILITARIAN PRINCIPLES OF TAXATION AND THEIR RELATION TO ALTRUISM.*

By R. S. GUERNSEY, of the New York Bar.

TAXATION FOR LOCAL IMPROVEMENTS—A CO-OPERATIVE SYSTEM FORMULATED—APPROPRIATION OF FRANCHISE TAXES.

In assessments on land for local improvements, such as streets and sewers, the cost is apportioned upon the surface (area) of the land without regard to the improvements upon it or about it. This is the antiquated single-tax principle for taxation which some few persons would apply to all taxation. The advocates of it are getting fewer and fewer among observing men as the years go by. It is contrary to the utilitarian principles and practice of taxation.

Heavy taxation upon real estate is, as we have already seen, borne indirectly by rent-payers. This is necessary, because of the usual methods of making assessments for local improvements on or about real estate in the most costly manner, and without regard to the just rights or convenience or desires of those that must pay them. The subject is now more important than ever by the great demand for local improvements, caused by the rapid growth of population in cities and villages.

The time when local assessments on land, for local improvements, must be paid is often of more importance to the debtor than the amount, particularly those for opening and grading streets and constructing sewers. This is strikingly true of land from which there is little or no regular income. This is usually the case near the suburbs. To have these assessments on land that is not built upon payable by annual installments instead of all due at one time, as is now the custom, will be of the greatest benefit to the land owner, and render land more negotiable, as well as a public advantage economically, because it would encourage building and increase taxable values, which are dependent upon improvements. The greater supply of buildings would reduce the rents. Payments for assessments can be arranged in such manner and form as to be without detriment to the municipal economy, as well as an encouragement to property owners to have such works done. We now have building associations that make loans by installments as new buildings are constructed, and some of the

* Continued from page 31.

loans are paid off by instalments. It is now a recognized principle of commercial credit that the instalment plan induces trade, and can be made as safe an investment as in any other manner.

Why cannot it be more frequently applied by a municipality in having public improvements made that are to be paid for by the assessment of the cost upon the local property benefited? The New York Court of Appeals has held that assessment bonds issued to immediately pay for local improvements on land, or as they progress, are not to be counted against the constitutional limit of indebtedness of a city.

The work must be paid for by the city as it progresses, and the city does not get repaid by the local assessment made for the work until long after it is completed. The city must borrow the money by the issuing of assessment bonds, which are to be paid, principal and interest, when the assessments are collected, some part of which always remains unpaid for several years, under a penalty of seven per cent. annual interest until payment is enforced by a sale of the property in the manner provided by law. These assessment bonds are now allowed by the New York City charter to run not more than ten years. Prior to the charter of 1897 such assessments have been allowed to run for twenty years for local improvements made in some parts of the city. The assessments in such cases were allowed to be paid in twenty annual payments of five per cent., together with the interest of seven per cent. on the portion remaining unpaid up to the time the annual payment was due. Although the mode as it was applied was not according to economic principles so as to be just to the debtor, for it greatly favored the city financially at a profit on the loan, yet it gave much relief to the taxpayer, the investor and the home builder, who might pay all of it at any time if he so desired. It is practically a repayment of a forced debt, at best, and usually contracted against the wishes of the parties who must ultimately pay for the assessment.

An annual payment of five per cent as a sinking fund investment at four per cent. will pay off a principal in fourteen years. Sinking fund principles is a subject that the civil service rules should require to be known by all those that have to do with financial matters in a State and municipality.

A municipality should not seek to profit at the expense of some few of its citizens by force of law for the benefit of all when it can do otherwise. The financial credit of New York City is so good that it can obtain loans on its bonds that run for twenty or

more years at less than four per cent. interest. Now, to be fair and just to land owners that are assessed for local improvements, have bonds issued for twenty years at least, at four or more per cent. interest. Have a law authorizing it. Have these local assessments payable in twenty annual installments for a sinking fund. Have the interest on the bonds at four per cent. payable annually.

According to Robinson's sinking fund tables, annual payments for twenty years to pay off a principal sum will require three dollars twenty-three cents on each hundred dollars. Add the four per cent. interest to this and we see that any assessment could be paid off by paying seven and one-quarter per cent. of it annually for twenty years. In case of default at any annual payment let compound interest annually at four per cent. be charged on the assessment for not more than six years, when the whole be deemed due and the property sold accordingly. These terms of payment would greatly encourage local improvements and loans and buildings for homes and other purposes where ready money is not at hand, or could be used otherwise to advantage. The entire amount could be paid at any time at the option of the debtor. If the interest on the bond is more or less than four per cent. it will not affect or change the amount for sinking fund.

The charters of cities of the second class in New York State now provide that when assessment and such other bonds are issued, the principal and interest shall be paid in twenty equal annual payments, the last of which shall become due at the end of twenty years after its issue.

The general municipal law of the State provides that in certain cases municipal bonds (New York City excepted) may be issued exempt from taxation, to run not more than thirty years, and the interest not to exceed five per cent., and that not less than two per cent. shall be paid annually besides the interest to take up the bonds at maturity.

A sinking fund of two per cent. invested at four per cent. will pay off the principal in twenty-eight years. A sinking fund to run for thirty years at a four per cent. investment only requires one dollar and seventy-two cents annually on a hundred to pay it off. To pay off a sinking fund within ten years where it draws four per cent. interest requires an annual payment of eight dollars on a hundred. This can now be done in New York City under the charter of 1901. The interest on assessments is now seven per cent. Therefore fifteen dollars on a hundred annually will now

pay off any assessment by the plan suggested. The Board of Estimate and Apportionment can do this without further authority.

The sinking fund principle is applied to private business, so as to have indebtedness paid off as easily as possible. The life insurance annual premiums are based on the sinking fund system on a four per cent. annual investment in connection with the probable length of life of the insured. The reserve fund to meet death losses is accumulated in this manner in mutual life companies.

An annual sinking fund of one per cent. invested at five per cent. will pay off a principal sum in thirty-six years.

There is still a further mode of lessening the tax burdens on some real estate. Where local improvements have been made and the streets are used by corporations that are annually assessed upon their franchises in streets, why should not the annual franchise tax be apportioned to pay towards the annual taxes on the real estate abutting on the streets that they use? Let such apportionment be according to the lineal feet occupied along the land where the franchise runs. This would help the property so situated and be a continual source of compensation for the use of the streets which had been paid for by private owners abutting on the street at the time it was first constructed. At the present time all the revenue from taxation of franchises is applicable to the general fund to relieve from taxation all other taxable property in the city.

Any revenue that the city derives from the use of the streets should be apportioned among the abutting owners in the same manner, to reduce the annual taxes.

Sewers are constructed at the expense of the abutting property owners for the joint use of individuals and the public, and they are cleaned and kept in repair at the public expense. This relieves them from any other obligation. It is time that the property which has paid for the street and prepared it for the use of the franchise should be recognized in such a manner as to be of some financial advantage to those that must submit to the annoyance and detriment to the property value because of some of these adjacent structures, which are for the use and convenience of the general public. This apportionment cannot be done without a law to that effect.

(To be continued.)

COSMOPOLITAN HEALTH STUDIES.*

By F. L. Oswald, M. D., Author of "Physical Education," "The Remedies of Nature," Etc.

VI.—THE OTTOMAN EMPIRE.

Sir Charles Napier used to describe the political constitution of the Turkish Empire as a "pile of old rubbish, protected by the dread of conflagration," and Turkish hygiene owes the tolerance of the neighborhood to similar apprehensions. Superficial investigations have been going on ever since the establishment of sanitary frontier posts; but human nature shrinks from the task of ascertaining the bottom facts of an antiquated muck-heap.

In the Turkish quarter of Adrianople, a city about the size of Indianapolis, there are two hundred slum alleys, that are cleared only by hounds and hurricanes, and are never visited by health officers till the progress of epidemics leads to riots. In Damascus there are about a hundred such plague nurseries, and in Constantinople at least half a thousand.

Pride, as well as ignorance, contributes to the reform-defying stubbornness of the Turkish officials. Russian muskets have hammered them into a sort of sullen civility to foreigners, but from the standpoint of their private opinion a Giaour is still an unclean beast, a pork-eating and brandy-fuddling Yahoo, saddled with idols like an Abyssinian cave-dweller. Shall such miscreants be allowed to bully a true believer about the rubbish of his backyard?

"Hoellen-canaille,"—say "hell-pups," Prof. Hacklaender translates a colloquial synonym of Trinitarians, and a Mussulman's idea of Western civilization is suggested by the fact that followers of the Prophet will admit a well-washed scavenger to their prayer-meetings, but bar "Franks" and tipsters.

"Then how do you account for our immunity from diseases that ravage your cities, year after year?" European physicians have often asked intelligent Turkish officials.

They will not commit themselves to a definite reply, but it seems that they explain it this way and that—generally on the theory of climatic differences.

Richard Burton, the learned gypsy, had an excellent opportunity to spy out their esoteric views on such questions. His Moresque appearance and knowledge of half an dozen Oriental

* Continued from page 103.

languages disarmed all suspicion, and enabled him to masquerade his way to the inmost sanctuaries of Mecca.

"How is it these people can keep the plague out of their cities?" he asked a pious merchant who had visited Odessa and Bucharest.

The merchant tapped the forehead of the pseudo pilgrim. "Get rid of such fancies, my brother," said he, with a smile of pity; "the Franks can do nothing of the kind. Talk of that sort is founded on the fact that they have great lazarettos, where the sick are confined by force as soon as the doctors can catch them in a helpless condition. No outsiders are permitted to approach these hospital-prisons, and, if the captives die, only a few officials will know it, and they also know how to keep their secret. May the day never dawn when we submit to such outrages. The truth cannot be wholly concealed, and it is more merciful to let a fellow-man die in the midst of his friends."

The expostulations of an emphatic consul may lead to promises of reform, but performances are limited by deliberate trickery as well as by indolence. The servant of Allah glories in the chance to mystify idolaters and cannot be trusted a step further than he can be watched.

A few years ago the foreign residents of Skutari petitioned for the appointment of a market-inspector, in the hope of preventing the frauds of provision dealers, and finally carried their point by offering to contribute several hundred piastres in the interest of public health. Food adulterations, however, continued, and investigations then elicited the fact that the supposed health officer limited his functions to the inspection of weights and measures, and the collection of an occasional fine for obstructions of the sidewalks. The precautions of the inland quarantine stations are frequently mere perfunctions; suspects are detained and squeezed out of the last possible *para* of bribes, but they are not isolated, and in consideration of a sufficient *caution* (safety-deposit) can even get permission to attend festivals and hunting-trips. The main purpose of these establishments appears to be the sanitary protection of the metropolis. Provincials are held responsible for contagion imported by way of their turnpikes, but are allowed to run all the local risks they please.

In 1890 Prof. Emile Tallier, of Damascus, collected sanitary statistics with a view to the improvement of municipal hygiene in the eastern pashaliks, but with an unexpected result: Records that could not well be disputed proved that the health of the almost neglected country towns was better than that of the cities, where

the agitations of foreigners had led to the appointment of something like a sanitary police. Allah Kerim! wasn't it clear now what true believers had suspected for years? The meddling miscreants had increased the frequency of epidemics and decreased the average length of human life.

Revision of the reports confirmed the original estimates that had set the all-cocks of Mecca a-crowing, but which Prof. T. explains as follows: In villages where sanitary precautions are limited to the occasional burial of a dead horse, winds, rains and sunbeams get a chance to disinfect the streets; the houses are scattered, and often perched on hills that attend to their own drainage. In the cities, where the principal streets are swept, back-alley filth accumulates for years, and moderate rain-showers only aggravate its power for mischief. There is no drainage, and sunshine-obstructing walls prevent the desecration of the festering cesspools. In other words, the slightly improved remedies of city hygiene are applied to far greater evils, leaving a balance of net results in favor of the villages.

The Turkish Empire, in its present extent, comprises many garden-spots of the Orbis Romanus, regions favored by every advantage of soil and climate, and it seems almost incomprehensible how slight deficits of rainfall can doom such Edens to far-spread famines. But the trouble is that nine-tenths of the rustics live only from hand to mouth, and actually dread evidences of prosperity that might attract the tax-collector with his retinue of bastinado experts.

That peril keeps up a cityward exodus. Ten or twelve centres of commerce (there are no industries) have grown at the expense of the agricultural districts, and are crowded with refugees who take their chance in the lottery of luck. Dens of vice abound, and increase the death-rate, together with the revenues of the conniving police. Few of the slum streets are lighted, and the nocturnal reign of terror proves, to some extent, a self-limiting evil, by causing a considerable plurality of house-owners to close their doors at sundown.

On the whole, these Ghettos would not be much noisier than ours if it were not for the thousand-headed nuisances of yelping curs. The toleration of these four-footed paupers puzzles all newcomers, who cannot help noticing that the supposed scavengers perpetrate more dirt than they remove, and have often to be fed to stop their intolerable clamor. And it would, besides, be a mistake to suppose that religious prejudice prevents a Mussulman

from soiling his hands with dog-slaughter. Firearms would obviate that objection, and the true key of the mystery is the pet-protecting good-nature that makes Turks and Hindooskin. Carlyle describes the dilemma of a poor Scotch laddie who had been ordered to drown a litter of pups and sat down at the river-shore sobbing and crying because he "just couldn't do it," but Orientals, with rare exception, would marvel more at the inhumanity of the order than at the reluctance of the recipient. They give all puppies a living chance, and the portentous increase of the nuisance is checked only by the limits of the food supply. Wealthy Moslems, in Turkey as well as in Persia, fill their stable-yards with hunting dogs, and keep them out of their houses merely on account of their proclivity to transactions which cats reserve for moonlit housetops. Only during the Rhamadan season (the month of purification), a devotee must avoid contact with unclean animals, and the mere accidental collision with a romping dog would oblige him to double the number of his ablutions for that day.

The sanitary habits of the Turks may, indeed, be summed up as a scrupulous attention to specialized form of personal cleanliness, combined with an almost total neglect of public hygiene. Washing—even a pro forma rubbing down with sand, if there are no available fluids; fasts, pedantically kept up to the very last minute of the prescribed hour—but sublime indifference to a typhoid-breeding pool in the yard of the next neighbor.

And yet the object-lessons of manifold epidemics ought to have inculcated the solidarity of human interests in matters of hygiene. As early as A. D. 982, the Arabian physician Rhazes described a contagious disorder which seems to have been either smallpox or some similar skin disease. The instinct of self-preservation prompted wealthy individuals to flee mountainward at the approach of a plague, but the poor were left to the care of Allah, and the attempts at inoculation did not go far beyond private experiments. The idea (brought to the notice of Lady Mary Montague in 1718) appears to have originated with the Kurds, an intelligent and highly independent race of mountaineers, who also had the honor to evolve that nobleman of nature, Malek Yussuf Sal Eddin, known to the West as Sultan Saladin, one of the few Eastern rulers who took an interest in the education of the poor and tried to fight disease by a prevention of its causes. With all his championship of Mohammedanism, he refused to encourage pilgrimages, as likely to peddle disease germs from land to land, and privately may have inclined to the tenets of his skeptical uncle,

Yussuf Mazir, who embraced the doctrine of the Koran only with the privilege of eclecticism.

"Is it a duty to accept dogmas unexamined?" asks that audacious highlander. "Mohammed enjoins almsgiving, and we have no money; everlasting washing, and we have no water; Rhamadan fasts, and we are starving the year round. And why travel two thousand miles to pray at Mecca? Is not Allah omnipresent?"

His illustrious nephew seems also to have doubted the completeness of the Mussulman scriptures, since he expressed a conjecture that Amru, the secretary of the Prophet, must somehow have forgotten to record a prohibition of opium.

The inspirations of the Koran did not enable its author to foresee the advent of the tobacco habit, that overspread all western Asia like an irresistible epidemic. King James' anti-smoking blue-laws paled before the ordinances of Sultan Mustafa, but there was no stopping the progress of the plague, and in 1695 tobacco culture had already begun to encroach upon the productive area of the empire as far east as Bed Nemeh, in the Valley of the Tigris.

Tobacco shops sprang up in all the principal cities, and became so popular that they could defy the prohibitive by-purpose of a high license. Patriotic statesmen here and there tried to clear the contaminated atmosphere; but hard times supervened, war-taxes had to be levied, and, as usual in such cases, anything was tolerated that helped to produce revenue.

Only in Arabia conservatism made a successful stand against the American novelty. Abd-el Wahab preached reform with a superheated fervor that set all Yemen ablaze, and actually started a Jehade against the City of the Prophet. Mecca was taken by storm, and smokers had to renounce the weed under penalty of being strangled with their own pipe-strings. Two hundred thousand human lives were sacrificed in the eight campaigns of the Pros and Antis; Ibrahim Pasha, with the best troops of Turkey and Egypt, had finally to take the field, but was glad to retreat after handicapping the fanatics with a pledge to confine their raids to the east-side of Harrat coast-range.

The Turks continued to smoke, and the anodyne of tobacco may partly explain the stoicism of their soldiers, who stick to their standards under difficulties that would stampede a normal colony of Mormons. "It isn't bad cookery, merely, or insufficient rations," says War Correspondent Forbes: "the supplies of the commissariat often stop altogether; there is *nothing* to eat; yet the men continue to mount guard and dig trenches for days to-

gether, subsisting on hope and a few nibbles of grass-seed or wild onions. There is still tobacco enough to keep the stump-pipes a-glimmering, together with sparks of trust in the Padishah."

Opium-smoking has become a vice of the upper classes. Poppy culture is not prohibited. On the contrary, it has considerably increased in some of the Asiatic provinces; but the profits of export constitute a temptation which the poor granger has no means to resist. Of sixty-five ounces of trade opium he may have raised, at forty cents an ounce, he sells about four pounds, and keeps the small balance for remedial purposes, rather than for the production of day dreams.

His conscience may help a trifle—for the ruinous tendencies of the drug are too glaring to be wholly ignored—thus making his sacrifice perhaps, after all, a little easier than that of the Grecian vinter, who surrenders the last drop of his cypralee, with the full conviction of depriving himself of the best creature comfort on earth.

Sanitary reform plans of all sorts have lately been urged by the representatives of the Powers, and the distracted Sultan must often regret the persistence of his ancestors who crossed the Hellespont in spite of warning omens.

Dying Turks, indeed, have begun to stipulate for the removal of their remains and their interment in some solitude of the far East, where they can hope to rest undisturbed by the hand of the intrusive Giaour.

To a large plurality of the once dominant race the constraint of European civilization, now—

"Is a garment, no more fitting,
Is a house, which they are quitting,"

almost impatiently ready to rejoin their kinsmen in the congenial wilderness of central Asia.

(*To be continued.*)

THE DETERMINING OF GENIUS.*

From "The Monist," Oct., 1901.

Among the many critics who have attacked my theory of genius and insanity, only one, Mr. Sergi, has discovered in it a true and capital deficiency. He says in "The Monist" (Vol. 10, No. 1., pp. 85 et seq.), that I succeeded in illustrating the nature of genius, but that I did not explain the existence of its varieties.

* Translated from the Italian MS. of Professor Lombroso by Felice Ferrero.

He did not mean that geniuses differ essentially in their quality; the nature of genius, whether mathematical or strategic, or literary, is constant and invariable. So calcium carbonate can crystallize either in rhombohedral or hexagonal systems; but its chemical nature is the same in both cases. Explosions, unconsciousness, novelty, intermittence, are common to all forms of genius. But, Mr. Sergi says, their having a common nature does not at all explain why they differ from each other. So the fact that both forms of crystallized calcium carbonate belong to the same chemical substance, does not explain why two forms exist. Water and ice have the same molecular and atomic composition of hydrogen and oxygen, but only a special physical condition of temperature makes them assume the appearance of water or ice.

Now, how can we explain the great variety of geniuses? Why does an artistic genius, an historical, an archælogical, exist? This is a new problem, and heredity is not sufficient to solve it.

Sometimes surrounding influences, with predisposition and hereditary transmission, determine the form that genius shall take. So Darwin, St. Hilaire, Raphael, Bach, and the Bernoullis, were born of naturalists, painters, and mathematicians, and lived among them, finding in atavistic tendency and surrounding intellectual atmosphere the first cause of their later work. But this is not a general rule; on the contrary, geniuses, particularly the scientific, show a tendency to—I might say—*dissimilar heredity,* by means of which sons are as different as possible from their parents. Edgar Allan Poe was a descendant of rigid Puritans.

Sometimes the environment alone and at large, particularly economic and social conditions, causes geniuses to follow their definite bent. Many a great jurist has lived in Italy, where crimes and litigations are very frequent, and warlike Piedmont has been the cradle of many a famous warrior. Among the Hebrews, who were and are great merchants, students of economics are numerous: recall, for example, C. Marx, Ricardo, A. Loria, L. Luzzati. The instance of Ricardo is peculiar; he had no inheritance of genius from his father, nor was he inspired by him; he simply shared in his father's business and speculations, and from commercial practice he drew economic applications, which are generally inspired by a very practical spirit, owing to his previous work and his rise subsequent to great commercial events, such as the monetary crisis of 1809.

But all these facts must be considered with much circumspection, because often it has been the very lack of favorable circum-

stances that has excited manifestations of genius and caused them to spring forth. Without misery and misfortune we should not now have the novels of George Sand and Harriet Beecher Stowe and the comedies of Goldoni. The history of genius is full of circumstances apparently opposed to its development. Boileau, Le Sage, Descartes, Racine, La Fontaine, Goldoni, were obliged to hide their muse beneath the grave garb of the lawyer and the theologian. Poisson's parents wanted him to become a surgeon; Herschel's and Cellini's meant to make players out of them. Michaelangelo's father wanted his boy to become an archæologist; never —he used to say—an image-scribbler. When a great sculptor saw the lad's first attempt and begged to have him placed in his own studio, Michaelangelo's father exacted of the sculptor a yearly sum for this privilege.

Flaubert was in his childhood intended for a lawyer.

Galileo had among his ancestors, up to 1538, several philosophers, magistrates, and great thinkers (cf. V. Nelli's "Life of Galileo," 1793). Even his father, Vincent, was an original musician and a student of geometry; his brother Benedict was also a praiseworthy musician. But evidently his heredity had no direct influence on Galileo; nor had his education, because education in those times inclined strongly to rhetoric and classicism—Nelli affirms that there was then only one school of mathematics and geometry in Tuscany, nor could his medical studies have been of any use to him, because medicine was quite theoretic and without the foundation of experiment.

It appears, then, from the above instances, that hereditary and surrounding conditions, once the causes most commonly assigned, either fail to explain the origin of genius-variation, or are contradictory or insufficient. Nor, to determine the special temper of a genius, is it enough to know the domination of acoustic or visual centers, the vivacity of fancy, the rapidity of synthesis that we discover so easily in his handwriting and style, although such conditions of intelligence have an enormous influence on genius. But a visual genius may become a poet, sculptor, painter, histologist, or calculator; and an acoustic genius may be a musician, or an orator, a poet, or critic, or novelist. This domination is not sufficient to settle the variety of genius. So I believe that there is another factor of utmost importance to which belongs the principal part in this determination, and with which heredity, environment, and the peculiar nature of genius are co-operators: that is, according to my opinion—a strong impression received at puberty.

GENIUS AT PUBERTY.

He who analyzes biographies of great men will find that in most cases the determining cause of creative direction lies in the combination of individual tendencies, with a very strong sensorial impression made at a time not far from puberty.

While a mere lad, Segantini's genius for painting had already flashed upon the walls of the Reformatory where he was kept, and where his superiors wanted to make of him, willy-nilly, a shoemaker. Had they encouraged and rewarded him, he would, possibly, have been an able shoemaker, of whom nobody but his customers would have known; but they abused him; then he fled from his wicked protectors to his native mountains, where he became a shepherd. There he used to draw sheep and huts without any particular thought of it. Once—he was twelve years old then—he saw a little girl die, and her mother disfigure herself painfully, because she could not preserve her daughter's image. He was inspired, and made a picture of the child: from that day he was the great Segantini. The combination of strong moral and physical impressions, at the very beginning of puberty, with such a powerful visual talent, made him a genius as a painter.

Proudhon was the son of a wood-cutter; the curé of his parish had taught him a little Latin, and the Benedictine friars of Cluny the elements of drawing. At the age of fourteen, he was trying to copy some bad pictures in that convent, with colors made out of plant juices and brushes of mule hair, when a friar told him that he would never succeed with his strange methods, because those pictures were oil-painted. Such a remark was sufficient to make him find out the secrets of oil-painting by himself, as Pascal did those of geometry. (Gauthiers, 1136.)

Stuart Mill, at the age of twelve, was so deeply affected by studying his father's "History of India," that his genius and passion for historical and economic events began at that time.

Arago, a lawyer's son, was precocious in music, and took an interest, while a youth, in classical studies. His passion for mathematics burst forth suddenly when an artillery officer told him that he had rapidly reached his position by graduating from the Polytechnic School and studying exact sciences. Then Arago quitted Corneille for mathematics; he studied them by himself, and at the age of sixteen was ready to take the examination for the Polytechnic.

Thomas Young was so precocious that at the age of two he

could read, and at five he had learned a large number of English and Latin poets, whose works he could recite by heart. When eight years old, he once met a land-surveyor, who showed him his instruments to calculate distances and the elevation of far-away bodies; he immediately set himself to study a dictionary of mathematics, to understand the structure of those instruments. He made a microscope by himself, and learned differential calculus in order to comprehend mechanics. (*Arago—Œuvres completes,* 1854, Volume II.)

Galileo, up to his seventeenth year, made no physical discovery of any consequence; he felt himself inclined to exact sciences and detested the inexactness of metaphysics and medicine. But when at eighteen, in his third year of medical training, he saw in the Cathedral at Pisa a lamp regularly oscillating, he thought suddenly that he could invent an instrument for the purpose of studying the laws of isochronism, and examine the state of the pulse.

Lioy, in Martini's "Primo Passo," says that he was eight years old, when, at the birth of a little brother, he was shut up in the library to keep him quiet, so that he should not disturb his mother, and a volume of Buffon was given him to read. It was the spark for his genius. "It seems to me as if I saw those birds yet; I dreamed of them all the night long; my place as a coming naturalist was settled."

Darwin, at eight, while he had already a great passion for collecting plants and animals, fancied, or rather, invented, and told to a schoolmate, the story that he could change the hue of flowers by sprinkling plants with colored solutions. It was a mere story, but it shows that from those early years he had observed the variability of plants. The germ of that idea, which was to dominate his whole life, was concealed in this puerile fiction that afterward became a reality. The great English naturalist believed that his having seen at that time a copy of a journey around the world, which greatly interested him, caused him to long for trips to far countries, and to travel, in later days, on the Beagle. On the contrary—he says—school, as a means of education, was simply a cipher to him. (*Vie et correspondence de Ch. Darwin,* 1888, p. 32.)

Poisson (*Arago—Œuvres,* V. III.) was to be, according to his parents' wish, a phlebotomist; his education was entrusted to an uncle of his who pretended to instruct him by making him puncture the veins of cabbage leaves with his lancet; he was always making mistakes. But at eight or nine, he once saw a programme

of the Polytechnical School and noticed that he could readily solve some of its problems: his career was discovered and his future settled.

La Fontaine was the son of an official, a poor verse scribbler. His genius was revealed when his attention was attracted to Malherbe's beautiful poem on Henry IV's death. Then he knew that he could be a poet, and such he was.

Gianni (*Universal Biography*) became a poet when first he read Ariosto. Then he made extempore verses, before he had learned the art of composition, shortly after puberty.

Lagrange had no great aptitude for study; his mathematical genius appeared when, as a high school student, he read one of Hallé's writings; he wrote then his first essay on the calculus of variations.

Benjamin Franklin was the son of a mechanic. At eleven, he had to leave school, and, to earn his living, entered a soap factory, and later a printing house where he could learn something. Having noticed for the first time the discharge of an electric spark in a toy machine, he imagined that lightning had the same origin, and discovered the theory of lightning and the lightning-conductor.

In all these cases, sensation did not rouse genius, but was the occasion of its revelation, and determined an individual who was organically predisposed, to turn to an end from which circumstances, education, etc., tended to take him and to separate him permanently.

So Darwin was predisposed by atavism to great naturalistic synthesis, because several of his ancestors had already worked in that direction, and his wit gave precocious proof of such predisposition in his idea of getting artificially colored plants. But, according to his own declaration, all the education he received was of no help to his later studies. The voyage of the Beagle was the point of departure for all his creations, and the intense wish for that came to him from reading, at puberty, a book on a trip around the world (*Correspondence*, 1878).

Sir William Herschel was a player who had learned by himself languages and mathematics, without any special end in view. His having seen, at twenty-one, the field of the sky through a telescope, struck him so forcibly that he made a telescope himself, and was driven to study which metal alloy was the best reflector of light. The result was, that by the age of thirty-six he had achieved the construction of a great new telescope.

Lalande, a pupil of the Jesuits, composed dramas and novels at

the age of ten; later, he aimed to be an eloquent lawyer; but when an astronomer made him observe the great eclipse of 1748, he felt his passion for astronomy, and became an astronomer, too; he was sixteen years old at that time.

Boerhave was intended to be a clergyman, and he took his degree of divinity. The idea of curing an ulcer that vexed his hand roused in him his first passion for medicine.

Lalande, Lagrange, Young, thought of themselves as classical, literary men, until either astronomical instruments or demonstrations in geometry came accidentally into their hands; and Gianni, a stays-maker, became a poet after reading Ariosto's poems.

In some cases, however, the tremendous effect produced by the first impression, as in Guerrazzi, shows that a true transformation happened, owing to a sensorial impression at puberty; should such a sensation have been wanting, genius would never have developed. Guerrazzi writes:

"I must note an event which may be considered an epoch of my brain. My lot at that time, when I was twelve years old, brought Ariosto into my hands. My mind, made like the strings of a harp, to be moved by vibrations of beauty, and constrained, thus far, into the hateful coils of grammar and of convent life, plunged into the joys of Ariosto's poems. Every man wishes for the paradise of his own fancy; to me the spirit of those times was a paradise and Ludovico was master. I used to dine with my 'Orlando Furioso' by the bread; to sup, in the same way; and father had to put out all the lights in order to get me to bed. I don't know what my value is; my descendants will see that; but if I am worth something, I owe it to Ariosto." (*Autobiog.*, 1900.)

Here we can see the clear expression of the dynamogenous, fermentative capacity of a certain impression on a man of genius, during his pubescence, even in spite of his education's having pushed him in a direction contrary to his own innate tendencies. A last instance is offered by Galileo, whom his education drew in the way of classical, or musical, or medical studies, as we stated above: he felt inspired to mathematics and astronomy at the sight of a pendulum. This is a most characteristic example, because new applications of the pendulum kept occurring to his mind all through his life, to the very end. At first, when he was a medical student, in 1583, he applied it to pulse measurements; then, when he interested himself in astronomy, to star and time measurements —as one may read in a letter of his; and finally, in 1641, at Reagli, blind and near death, he thought that the idea could be applied to

clocks—as is proved by a letter of Viviani—and only his blindness, which caused his drawings to be formless, and his death, prevented him from completing the work he had started at seventeen at the sight of the swinging lamp in the cathedral of Pisa. (Nelli's "Life of Galileo.")

To many a genius the first impulse has been given by feminine beauty. Petrarch, at the age of fourteen, was drawn to poetry and a life of genius by the first sight of Laura. He wrote afterward, April 6, 1327: "I don't deny that the little I am worth I owe to that woman, and that if I enjoy some fame or glory, it would never have been, had she not cultivated with so noble affections the little seed of virtue nature placed in my soul."

Nencioni tells us that his first poems, at twenty, were inspired by the sight of a very beautiful maid. De Amicis lately stated that one of the most brilliant writers of vernacular poems in Piedmont had not yet written a line at twenty-two, when he fell deeply in love with a lady of prominent position; some time afterward he met her in a railroad car, and in a moment when all the lights were accidentally extinguished, he felt her hand gently pressing his and knew that his passion was accepted and returned. A few hours later, he wrote the best of his poems, "A Shepherd's Dream," and was always, thereafter, a very able poet.

Dante declares in his writings that he was inspired by his meeting with Beatrice in his early youth.

Burns, a shepherd, who was already inspired by his mother's popular songs, wrote his first poem at fifteen, for love of a young girl.

Sometimes religious passion takes the place of erotic excitement. Lacordaire was roused by his first communion, and Rapisardi relates that, at thirteen, an ode to St. Agatha started the long series of his poems.

The great essential in these instances is that they all belong to childhood or pubescence. Now, men are undergoing external influences and strong sensations at any time, but without such a reaction as they show at puberty. Puberty has a tremendous importance for one's mental development, on account of its greatest impressionability to external causes. Youth is then in a condition of latent explosibility, ready to burst out under the pressure of every influence, whether of scientific theories, or of artistic enthusiasm, or of misfortune, or of strife. Adult man is thrown into the midst of new surroundings, new habits, new individuals, but they do not find such a quick echo in his soul, because his way is

settled, he has sentiments and ideas of his own and may hardly be influenced.

A very important proof of this truth appears in Starbuck's "Psychology of Religion." The author personally investigated the cause of conversion of many hundred students in seminaries and upper schools of America, with the following results:

	Women Cases.	*Men Cases.*
By parents	23	32
By familiar surroundings	30	52
By friends and acquaintances	34	42
By ministers	23	20
By teachers	0	6
By writers	17	17
By science	3	8
By art, music, poetry	8	15
By books	10	12
By deaths	0	13
By misfortunes	0	2
By internal struggles	0	0

He noticed that besides a more general influence on the part of parents, a very large proportion of influence was exercised by friends or teachers at particular times of life; or tales, sermons, poems, songs, listened to, or read, under particular circumstances, these factors contributing to conversion as frequently as familiar surroundings. But in all these cases, this is the fact of actual interest to us, that any external influence, through friends, books, teachers, etc., acted, as the case is with genius, at puberty, during a period extended by Mr. Starbuck to six years, by including years immediately preceding and following puberty, the psychical and physical influence of which was found by him to last much longer, especially in the case of men. Indeed, it is evident from a graphic representation of his observations that the line representing the number of men's conversions in relation to their ages has three *maximums,* one at sixteen years, another at twelve, and a smaller one at nine. This curve is exactly parallel with Harnack's, for mental tests, in order to fix a maximum of intelligence, or, better, of reasoning power, in boys of the same country.

Mr. Starbuck gives also in his book many answers he got to his questions, and such answers show that influences were—as stated

above for genius—momentary, enormous, as revelations quite out of proportion to events, having nothing peculiar in themselves. Some young men were converted after listening to the serious preaching of a friend or teacher they had known and loved and listened to even before; or after reading a book, a story, a quotation they had seen hundreds of times; hearing music, or witnessing a pitiful sight that had nothing worth notice in itself, but which agreed at the time with their particular condition of soul.

The same sort of thing occurs in the unseen, inner life, according to Mr. Starbuck's statement. Most of the men interviewed by him had noticed at some moment of their childhood a sudden revolution which determined a violent change in their characters, ideas, and aims—a transitory period of folly, he calls it. For many of them such a revolution was the cause of terrible melancholy; for others, of ferocious scepticism, or stupid passions.

Mr. Marro pointed out something like this in Turin schoolboys who become riotous, undisciplined, and bad at about twelve or thirteen years. (Marro's "La Puberta," second ed., 1900. Anthrop. Series, Vol. XXVI., Bocca Bros., Turin, Italy.) The result of an investigation of mine, attempted among forty educated young men, is that, at that time, impulsive, pyromaniac, kleptomaniac, and strikingly ambitious tendencies are very strong and diffused, sometimes even with slight hallucinations, and almost always with megalomaniac tendencies and dèmency alternated. Out of forty examined, sixteen declared that they noticed nothing or recalled nothing; seven remembered having, between eight and twelve years of age, a strange megalomania, in opposition to their family circumstances, to become conquerors of Verne's Islands or the Republic of San Marino; five stole at home in order to waste money—they were workmen's sons and tried to make people believe that they were rich and powerful; five had persecuting ideas of being arrested by the police, or of becoming soldiers, when they were eight years old; three were insulting, quarrelsome, and villainous; two were seized by religious mania to become missionaries or hermits; two had obscene impulses, and one a suicidal tendency. A rich, very honest, young man, during pubescence, stole even coin pieces from shops, though he was not in need, and threw them away, or concealed them underneath stones, as soon as he had taken them. Another rich man had stolen a pair of shoes from a show-window, only to throw them away.

A lady teacher in a Turin boarding-school told me that she had

to look after three sisters, who successively attended her school; and that all of them were good and quiet up to twelve years, became intolerable liars, bad and insubordinate, from twelve to fifteen, and later resumed their previous character.

The fact is, that at that time a tremendous overflow of life is prepared and organized and perturbs the being, enveloping it as in a sort of coil, which can—at least temporarily—drag the feeble to their ruin, but exalt the strong to giddy heights; because at this age of complete reconstruction and transformation of the organism the psychical centers are the most affected. This proves the truth of a great writer's sentence, that he who never created anything in his youth will never create anything later. Now, in this giddy movement it is natural that any most energetic, though formerly latent, activity, breaks its way, particularly when the electric shock of a special sensation has first thrust it in that direction toward which it naturally tended. So a fertile coupling happens that definitively polarizes young people and causes a new organism of greater proportions to develop.

What happens transitorily in normal people would happen on a larger scale in geniuses; such an organic revolution is more pronounced and more manifest in the latter, as well as in criminals and the insane. The insane indeed show, above all in their psychopathies, a keen resemblance, almost an identity in the process of the formation of mad intellect, with that of genius ideas in men of genius.

Sometimes, although psychical activity is normal to a great extent, an impression received by an individual during, or shortly before, puberty, assumes such a great importance in him as to determine all his actions, all his psycho-sexual content. Such is the case of those so-called *erotic fetishisms,* of people who can be sexually attracted only by seeing an old woman with a coif, or by holding a candle in the hand, or by being insulted, etc., that can be explained by means neither of atavism nor of neurosis. When those people are questioned, however, one learns that in the very moment of their first erotic excitement they were so powerfully struck by the image of an old woman with a coif, or with a candle, that they could be roused in no other way. A man who felt an erotic fetishism for women dressed as Italian models, recalled, in explanation of the fact, that he saw, while sixteen years old, in the first power of his puberty, a model of extraordinary beauty so dressed.

This is a phenomenon which is also common to genius, cer-

tainly owing to its degenerative character, by which the process of erotism remains crystallized in one of its first periods of sensorial excitement. Any one normal in his erotic passions is first excited by the sight of some feminine belongings; but in those abnormal cases this moment absorbs the whole erotic process; so that the lover of a model's dress, above spoken of, no longer needs to see her face, or wants her to speak to him, to touch him, the first moment of excitement so wholly substituting itself for all the successive ones that the latter may be suppressed.

Even in many cases of hereditary paranoia a like phenomenon is observed, which explains some strange deeds normal and pathological psychology are quite unable to interpret. Individuals who received a strong impression in a particular circumstance were affected all through life by it, exclusive of others, although their *psyche* was altogether unchanged. Mr. Marro speaks of a girl who, upon hearing a man talk a long time on some parts of the body, felt a deep horror, became a maniac, and continually fancied men speaking of that matter. A girl was so impressed by a volcanic eruption that thereafter she believed herself to be always in the midst of volcanoes, and another was so frightened by a quarrel in a *bal-masque* that always afterward she saw people with masked faces. De Quincey is the most typical case; having seen, when he was six years old, his dead sister lying on her deathbed, he was so struck by the sight that the sky and the clouds always seemed to him full of beds with dead girls in them; these visions lasted for the greater part of his life, so that he said himself that all our ideas exist as germs in the child, and chance—an accident, futile in itself, but decisive—causes them to develop.

THE FACTOR OF AGE.

Sometimes one notices that the influence on the creation of genius, as well as the determination of folly or religious conversion, did not concur with the time of puberty, but happened even long before, as in De Quincey. That is clear, when it is understood that what we said must be applied to a longer period than that of puberty itself, and extended to years immediately following and preceding it. Some geniuses are so strangely precocious that infancy and youth are confused in them. Mozart was a composer at five; Gassendi, a preacher at four; Picodella Mirandola knew several languages at ten, and Kotzebue wrote his first comedy at three. This precocity is often shown by Negroes and Es-

quimaux, and is evidently a degenerative characteristic, as criminals present it (31-45 per cent. of the cases); female offenders have their menstruation even two years earlier than the average.

SLOW IMPRESSIONS.

Sometimes, on the contrary, the fertilizing impressions of genius are received, apparently, much later than at puberty. This is explained by the fact that circumstances prevented fertile contact from taking place, or such contact found a quite unprepared individual and was therefore unfruitful. Starbuck noticed some instances of slow conversions after thirty, but these cases happened when extreme poverty, or extraordinary "family circumstances," obliged the individual to busy himself with the most pressing questions of life, and to compress every aspiration for great ideals.

So Caxton, born of very poor parents, growing up in the want of any education when a boy, was employed by a merchant who later became Lord Mayor of London. He acquired thereby great confidence, and was sent to Holland as a representative of the Merchants' Association; there he had occasion to hear about Guttenberg's invention and that was enough to make him an inventor in this line.

In some of these instances the influence of puberty was a most important one, but stayed latent; it did not at once determine, but prepared for the bursting out of a genius's vocation, which happened only later, under other circumstances. Thus, Lacordaire received so deep an impression from his first confession at seven, that he preached on it in a touching way in a private chapel to his relatives, and recalled that time, many years later, as the germ of his career. When he was twelve years old his religious fervor was reborn in his first communion, which, he says, was the utmost joy of his life; after that he studied, became a lawyer, and had great success, when at twenty he was suddenly overtaken by religious enthusiasm which caused him to make a priest of himself. Evidently, although he came to a decision only when an adult, his greatest incitement came to him in his earliest puberty.

Berlioz had already composed a *pastorale* at twelve; then he had his head stuffed by his father with classics and medicine. At fourteen he felt again his love for music, because of some operatic musical sheets which occasionally came into his hands; but although a musical fermentation was working in his brain, he kept on studying medicine and anatomy. Only at seventeen, when he

listened to a performance of "Le Danaidi," did he begin to hate everything that was not music, and lost his sleep over it; then he resolved to leave his medical studies and became the great composer. Unconscious influences acted, in such a case, before and at puberty, worked concealed for years, and burst out under a fortuitous circumstance, long afterward.

Therefore, while society cannot be held absolutely responsible for births of genius, because too many independent factors are required for its formation, it must be held responsible in so far as it has a great influence in causing genius to take a direction and follow a line, because almost all of the deep impressions which strike a boy in his puberty are excited by the environment which surrounds him. This is why great geniuses of Italy were for a long time bound to classicism and painting; as in the Hebrew race they were bound to mathematics, philosophy, and political economy: in Piedmont, particularly to war; in Germany, to commerce and industry; and in America, to inventions and practical applications. If business or military glory, or something else, be a constant and general tendency of a people's spirit, the impression thereof which strikes a boy of genius will cause him to be an Edison, rather than a Galileo; a Ferrari or Titian, rather than a Stanley.

That is why I am opposed to the Italian classical education that presents to the minds of the new generations useless or dangerous examples, instead of practical instances, whereof the imitation could place Italy on the same footing with other nations. That is why I endorse and heartily support technical, scientific, professional, and, above all, industrial education. Such an education would give any born genius or talent the same opportunities and chances to work at building up national wealth and strength as it does in America and Germany, where the genius of industry and commerce is in its full bloom, although the genius of science and art may be declining.

CESARE LOMBROSO.

Turin, Italy.

EDITOR'S TABLE.

SANITARIAN, MARCH, 1902.

☞All correspondence and exchanges, and all publications for review, should be addressed to the editor, Dr. A. N. Bell, 337 Clinton St., Brooklyn, N. Y.

"OUR DUMB ANIMALS."

With sincere gratification we publish the following correction of a mistake ("Nil Desperandum," page 158) in the February number, caused by what appears to have been an accident at dropping of THE SANITARIAN from the mail list of "Our Dumb Animals" and the apparent substitution of the "Animals' Defender":

"BOSTON, Feb. 8, 1902.

"Dr. A. N. Bell, A. M., M. D., Editor SANITARIAN:

"Dear Doctor—Please accept my thanks for kind notice in February issue of your excellent publication of me as president of the American Humane Education Society, the Massachusetts Society for the Prevention of Cruelty to Animals and the Parent American Band of Mercy (of which we have now recorded nearly fifty thousand branches). But your writer of the article in question astonishes me by saying that 'Our Dumb Animals,' which I started in 1868, as the first of its kind in the world, and printed two hundred thousand copies of its first number, and whose monthly circulation is never less than between fifty and sixty thousand and sometimes vastly larger (going every month, among others, to every newspaper and magazine on this continent north of Mexico)—that 'Our Dumb Animals' has been merged into another paper.

"Please kindly correct the mistake by saying that 'Our Dumb Animals' has never been merged with any other paper and probably never will be, and that neither of the societies of which I have the honor to be president has ever had any connection whatever with any other paper than 'Our Dumb Animals.'

"If you will kindly glance over inclosed annual report it may surprise you to see that our societies above named have printed in a single year more than a hundred and seventeen millions of pages of humane literature, perhaps more than all other societies of their kind in the world combined. With kind wishes, yours truly, GEO. T. ANGELL."

FAITH MURDERERS.

"Beyond the infinite and boundless reach
Of mercy, if thou didst this deed of Death,
Art thou damn'd."—Shakespeare.

Against curists of the Eddy kind in St. Louis, Mayor Wells recently ordered summary action.

The Mayor's action was based upon a report submitted to the Chief of Police by Health Commissioner Starkloff, who, aroused by the revelations in the conduct and management of the "home" brought out at the inquest into the deaths of Louis Diep and George Williams, two of the inmates, ordered two of his deputies to make an investigation. The deputies, Cornelius Molong and Rudolph Osthaus, inspected the institution one morning, and the results of their inspection are embodied in the following report to the Health Commissioner:

Health Commissioner's Report.

"Dr. Max C. Starkloff, Health Commissioner:

"Dear Sir—In accordance with your instructions, I have caused an examination to be made of No. 911 North Garrison avenue, occupied as a Faith Home for children, and under the management of Mrs. Mary Walton and Mrs. Maude Coker-Miller.

"There were found on the premises fifty-one children and five grown persons; children range from three to fifteen years old; majority under ten. There are nine rooms in the house, but only fires in three. The temperature of the house at the time of the examination was low. There is only one toilet-room in the house and one bathtub, and these are out of order.

"The place is unclean and unsanitary. The pantry and storeroom and kitchen are far from being clean.

"Several of the bedrooms are without fires, and some of the rooms are occup[illegible]hildren of both sexes; one room having twenty-two ch[illegible]

"The roo[illegible] the kitchen, is not heated, is to[illegible]d-clothes are ragged and are [illegible] for use. One [illegible]oys, allow- [illegible]est amount [illegible]d-clothing,

"The officers inspected the larder and found that the amount on hand for the day's provisions was one-third of a barrel of stale bread, nothing else. When the persons in charge of the establishment were questioned as to this matter, they answered that something would be provided some time later.

"The children appear to be suffering from cold and hunger. While our ordinances are somewhat defective in relation to cases of this kind, Section 802, Article 2, Chapter 11, of the Municipal Code, provides that boarding-houses, lodging-houses, etc., that are intended or allowed to contain twenty or more boarders must have adequate sewerage and plumbing of the most improved construction, wholesome ventilation of each room, well-sewered and ventilated toilet-rooms, in a wholesome condition, and that the premises must be kept clean.

"Under this section this place can be condemned by the Board of Health as a nuisance, but no action can be taken by the board for at least five days, so if the Marshal served the papers at once, the case may be heard next Thursday, which I will endeavor to have done. However, I believe that from the report of the Health Inspectors the police would be justified in proceeding against these people under the charge of willfully keeping children in a cruel and inhuman manner, and these children, I believe, should be removed from the care of these people, as is done in instances where children are found even in care of parents who may be considered improper custodians.

"The children could be divided up between the House of Refuge and the Bethesda Home. Over three years of age, they can be sent to the House of Refuge; under three, to the Bethesda Home, under Section 629, Article 2, Chapter 21, of the Municipal Code.

"There should be no hesitation in acting in this respect. These children, if not taken care of by the authorities, will die of hunger and cold, or will probably become diseased and endanger the health of the neighborhood.

"There is a great need of a law regulating this kind of establishment and the so-called private hospitals. Respectfully,

"CHARLES W. FRANCIS,
"Assistant Health Commissioner."

Dr. Starkloff immediately laid the report before Chief Kiely, with a written request that the Police Department co-operate with him in adopting vigorous remedial measures. The Chief sum-

moned Captain Gaffney, who had accompanied the deputies on the inspection trip, and, after hearing his report, sent him to the Mayor with the Health Commissioner's report and a written request that immediate action be taken.

Sought City Counselor's Advice.

Mayor Wells sent for the City Counselor to seek his advice as to the legal aspect of the matter. The City Counselor advised that the only ordinance under which he could proceed was one empowering the Board of Health to abate as a nuisance any lodging-house, boarding-house, hospital or similar institution where the ventilating facilities and sanitary conditions are inadequate to the number of inmates sheltered. As the proper prosecution of this charge against the "Faith Home" would necessitate a delay of several days, and the case under consideration called for prompt measures, the Mayor decided that an emergency existed, and accordingly issued his instructions to Captain Gaffney.

"The case is one," said the Mayor, "in which the lives of many helpless children are at stake, and requires immediate action. I have no authority to order the arrest of the persons conducting this place, nor to take the children away and place them in another institution without observing the proper legal steps, but I have the right to commit the waifs to the House of Refuge if I find they are being neglected, and if the parents or guardians of the other children do not take steps to see that they are properly provided for, I shall regard them as abandoned children, subject to my disposal. I myself will make the necessary affidavits, or Captain Gaffney will, upon which these children will be placed in an institution where they will be properly treated. I am only sorry the matter was brought to my attention so late this afternoon that I was unable to take steps to insure the little ones plenty of warm, nourishing food and a cozy, warm bed to-night.

"If these women abandon their present 'home' only to start another in a different part of the city, as they threaten, they will find us ready to resume proceedings against them. We are long-winded here sometimes, especially in a good cause, and we will never tire of harassing them until they abandon their present methods and conduct the institution in a proper manner."

Mrs. Coker-Miller, when seen at the home after the inspection by the agents of the Health Department, was in an unamiable and defiant mood.

"If you're a reporter," she said, "we haven't anything to say to

you. Yes, the health officers and the police were here, but I don't know what report they made and don't care. We know our business, and we conduct this home in a manner to suit ourselves and our patrons, and we don't care what lies the newspapers print. We don't care a snap of our fingers for the police, the Health Board or the Mayor. If they force us to close up here we will open another home and continue as we have been doing."

AUTHORITY TO PREVENT MURDER BY SMALLPOX.

Some weeks ago the Burgess of Shamokin, Pa., together with a couple of the health officials, went to Philadelphia to see Dr. Lee regarding their authority to deal with a smallpox epidemic. They reported that a quarantine had been established, the effectiveness of which depended upon the honor of the people. They were told to employ a sufficient number of competent officers and depend upon them for an effective quarantine. In response to questions, Dr. Lee instructed them that they had authority to close the schools, the churches, Sunday schools and theatres as well as stop all public gatherings. In case these orders were not complied with they had the power to immediately make arrests and fine the offenders. He also instructed the board to spare no expense in stamping out the contagion. These things are worth printing, because they should be known and understood in all parts of the State. The kind of quarantine that is established in some places is merely a farce. This is sometimes due to the carelessness and indifference of the authorities; sometimes because there is objection to spending money in this way, but in a great many cases it is due to the fact that the local authorities have no real knowledge of the responsibility intrusted to them and the power given them to act. Contagious disease would have a small chance of spreading if all the authority of the law were exercised promptly and effectively.

OSTEOPATHY.

"Dr." Julian Ward Seeks to Recover for Treatment Which Defendant Said Was to Be Gratuitous.

Justice Joseph, of the Seventh District Municipal Court, New York, recently heard testimony in the suit brought against Mrs. Theodore Sutro by "Dr." Julian Ward, of 275 Central Park West, for $132, in payment for treatment.

"Dr." Ward is an osteopathist and alleges that he treated the defendant during March, April, May and June. Mrs. Sutro does not deny having been given the treatment, but contends that "Dr." Ward promised to treat her free of charge. She also said in court that the treatment had benefited her and that when she first called on "Dr." Ward she had paid him $40 for his services. Then when she stopped, she alleges, he promised to treat her free if she would recommend him to her friends.

When the plaintiff was called to the witness stand he said that he was not a registered physician and had never passed as such. He said that the abbreviations on his cards, D. O., D. D., and M. S., stood for Diplomat of Osteopathy, Doctor of Divinity, and Master of Science. He said that up to a year ago he was a Baptist minister.

Mrs. Sutro's interests were looked after by her husband. The latter said that the plaintiff had been guilty of violation of the statute, inasmuch as he had passed as a physician and had sent out numerous pamphlets and circulars advertising himself as such.

ECCENTRICITY AND BRAVADO.

When members of our own school participate in such inanities (as belief in the non-contagiousness of smallpox and the inefficiency of vaccination as a preventive) we feel that it is time to utter a few words of emphatic disapproval as voicing the sentiments of our branch of the profession. If the evil results of their delusions were visited upon themselves alone, no one could complain; but they become an important means of carrying the contagion far and wide! A practical illustration of those having eyes seeing not has just been called to our notice. Two physicians, both prominent anti-vaccinationists, both disbelievers in the germ theory, attended a case of smallpox. In each instance the disease has been carried home to their families. In the case of a third disbeliever in vaccination the effects fell upon himself, for he is now ill with smallpox. A fourth man attempted to show his contempt for the contagiousness of smallpox by removing a patient with that disease to his own home, whereupon his outraged fellow-citizens burned him in effigy. Such eccentric conduct on the part of the members of a liberal profession is to be deplored.—*The Hahnemannian Monthly.*

Dr. Immanuel Pfeiffer, of Boston, was one of this kind, and one of the strongest opponents of vaccination in Massachusetts, and had recently appeared before the Legislative Committee to

urge repeal of the compulsory vaccination law. Having the courage of his convictions, he went to Galloupe's Island and completely exposed himself to smallpox. Two weeks thereafter he was taken with smallpox and at latest accounts so severely that he was not expected to recover.

PRIZES FOR ESSAYS ON PREVENTIVE MEDICINE.

Believing that a proper exercise of preventive medicine is of incalculable importance to the human race, and desiring to stimulate further research in this line, or at least to disseminate some of the newer ideas so prominently discussed by the medical profession of recent years, we offer two prizes:

A First Prize of

ONE THOUSAND DOLLARS,

and

A Second Prize of

FIVE THOUSAND DOLLARS,

in Cash

for the Best Essays on That Subject.

Conditions of the Competition.

First—Essays offered in competition must treat the subject of preventive medicine in its various relations to the welfare of the human race, either treating the topic in its broadest scope as affected by disease, custom, environment, heredity, etc., or from the view-point of the specialist who contends that the most potent factors inimical to mankind result from special conditions which he is enlisted to combat.

Second—In order that there may be no violation of medical ethics and no suspicion of mere commercialism on our part, Maltine or any of its combinations *must not be mentioned or even indirectly alluded to in the essays.*

Third—Competition is open to graduates of all recognized medical colleges.

Fourth—The essays will be judged by the following gentlemen:

Daniel Lewis, A. M., M. D., New York, president New York State Board of Health; professor of special surgery (cancerous diseases), Post Graduate Medical School; surgeon to the Skin and Cancer Hospital; editor "Medical Review of Reviews."

Charles A. L. Reed, A. M., M. D., Cincinnati, ex-president

American Medical Association; ex-president American Association of Obstetricians and Gynecologists; Fellow British Gynecological Society.

John Edwin Rhodes, A. M., M. D., Chicago, associate professor diseases of the chest, throat and nose, Rush Medical College; former professor of physical diagnosis and clinical medicine, Northwestern University Woman's Medical College.

The Prizes Awarded in Accordance with Their Decision.

Fifth—The essays are to consist of at least ten thousand words.

Sixth—Each competitor is to send us three typewritten copies of his essay by mail in a sealed envelope. These copies are not to be signed by the author, or contain anything which might point to his identity, but are to be signed with a nom de plume.

Seventh—Another sealed envelope shall be sent to us containing this nom de plume together with the author's name and address. This envelope must be endorsed "for Identification," and will remain sealed until the judges have decided upon the two prize-winning essays, and will then be opened in order that the names of the successful competitors may be ascertained.

Eighth—The prize essays and any others which are deemed suitable will be published in a medical journal or journals subject to the approval of the authors.

Ninth—We reserve the right to republish any of these essays in pamphlet form, restricting the circulation to the medical profession.

Tenth—Essays entered in competition must be in our hands by September 1, 1902. THE MALTINE COMPANY,

Eighth avenue and Eighteenth street, Brooklyn, N. Y.

VACCINE LYMPH.

That something will have to be done to rehabilitate vaccine virus in the estimation of the medical profession as well as of the general public will be seen by the following extract from an article in a recent number of the "Cleveland Journal of Medicine." "One of the most important problems now confronting the medical profession," says the "Journal," "is that of finding a method to insure that all vaccine placed on the market is pure and effective. Careful investigation forces the conclusion that much of that now on the market fulfills neither of these very reasonable

requirements. There is general complaint that much of the best quality of vaccine on the market is not effective. It is no unusual experience to vaccinate and revaccinate unprotected children, using all the necessary precautions, without producing vaccinia. On the other hand, the conclusion is forced on physicians that some vaccine conveys only pyogenic infection. The inoculation of such vaccine is followed by severe reaction, including fever, erysipelatous dermatitis, a deep, sloughing sore, and great swelling of the arm. Such a vaccination, in spite of its apparent thorough reaction, produces no immunity to subsequent smallpox."

We laics have been taught, a newspaper remarks, to believe that the sorer and the more swelled the arm became after vaccination, the better had the vaccine taken, and the more securely immune should we be against smallpox. But now the physicians let the cat out of the bag, and we find that we were grievously mistaken. It is not the successful inoculation of the vaccine matter in the wound that produces the "fever, the erysipelatous dermatitis, the deep, sloughing sore, and the great swelling of the arm," but quite the reverse. When these ugly results are the sequel of vaccination, it implies that the vaccine matter injected into the arm was not pure; that the "fever," "the great swelling of the arm," etc., were caused by "pyogenic infection," that they were produced by poisonous stuff mixed with the vaccine.

These admissions, with regard not only to the impure but also to the ineffective and the poisonous character of much of the vaccine matter that is put upon the market at the present day, being thus made publicly by physicians of high standing, it is certain that something will have to be done "to insure that all vaccine placed on the market shall be pure and effective." We have not the least doubt but that nine-tenths or perhaps ninety-one one-hundredths of the vaccine virus now used is both pure and effective. But there is no telling how much harm may be done by the remaining one-tenth or one-hundredth which is not pure or not effective; or how many anti-vaccinationists it may produce.

Unless the American Medical Association, or State Medical Associations, intervene and take such action as will hold the manufacturers of serums up to a proper standard of purity and strength in the commodities they manufacture, the Government will have to be invoked to create a national commission to perform this necessary work which the medical profession itself is not apparently disposed to undertake.

At the January meeting of the New York County Medical Association the Committee on Public Health, of which Dr. N. E. Brill is chairman, made an elaborate report of its investigation into the anti-toxin and vaccine virus products of the laboratories of the Health Department. The conclusion reached was that it was unanimously agreed that the character, professional qualifications and standing of the men engaged in the supervision and control of the manufacture of these products, none other than skilled help carrying out the details, are more than sufficient guarantee as to the quality of the curative sera and vaccine virus. These men represent the highest professional and scientific skill in these departments to be found in the city, and the methods which are used are beyond criticism. The committee stated that they had been unable to find any recorded cases of tetanus in New York following the use of anti-toxin or vaccine virus, and it was their opinion that these products of the laboratories of the Department of Health are absolutely safe. They found that the horses selected for anti-toxin production were under nine years of age and perfectly healthy, and were stabled in a special building on East Fifty-seventh street. Until recently about two-thirds of them have been kept in the basement, and the remainder on the first floor, but at the present time all the horses are kept upstairs. All are exercised one hour daily, except in very stormy weather. Before treatment the horses are systematically injected with tetanus anti-toxin, in order to prevent the possibility of their contracting tetanus, and since this plan was adopted, five years ago, no horse has contracted the disease. As to vaccine virus, the committee's investigations showed that the calves selected, the precautions for cleanliness employed, the care given to the stable, and the handling of the virus left nothing to be desired.

Dr. S. H. Durgin, Chairman of the Boston Board of Health, recently said at a meeting of the Society for Medical Improvement ("Boston Medical and Surgical Journal," January 30): "We shall ask the Legislature at its next session to authorize the State Board of Health to produce and furnish our vaccine lymph. The State Board of Health is competent, has the confidence of the people of the State, and can give its guarantee of pure and active vaccine lymph, free of charge, to every person in Massachusetts, just as is being done with diphtheria anti-toxin. We shall hope for the backing of every physician in Boston. As to the percentage of vaccinated people in London, some of the figures

quoted are a little old at the present time. They are beginning to suffer from the neglect of vaccination. The people of London are to-day suffering from smallpox more than any city in this country. England, in consequence of its neglect of vaccination, is in serious contrast with Germany, which enforces vaccination and has no smallpox.

"With regard to Boston, I am sorry to say that she has been caught in a poorly vaccinated condition. We went through the city in the winter of 1872 and 1873 and gave thorough vaccination. Since that time we have experienced an unusual freedom of smallpox, much indifference and some misguided objection to vaccination, and are in consequence easy victims to smallpox. Under the statute law, every child in Massachusetts must be vaccinated before it attains the age of two years, and for neglect of this duty the parent or guardian may be prosecuted and fined. An amendment to this law took place a few years ago, so far as school children are concerned, which allows any child to attend school who can bring a certificate from a physician stating that it is an unfit subject for vaccination. The anti-vaccinationists are apparently utilizing this law as a convenience to their belief, which is that nobody, however healthy, is a fit subject for vaccination, and they are certifying the most healthy children as unfit subjects for vaccination.

"In regard to the difference between humanized and bovine lymph, I would like to say, as a matter of interest, that in the Republic of Mexico for ninety-seven years they have used almost nothing but humanized lymph. This lymph was brought from Europe in 1800, and since that time it has been produced and handled by only four persons selected by the Government. The children from whom the lymph is taken are well selected, the lymph is well cared for, and furnished free of expense, as it should be here. They never revaccinate, neither do they have smallpox among the vaccinated. My authority for this statement is Dr. Eduardo Licéaga, the president of the Supreme Board of Health of the Republic, a man of long public experience and unimpeachable character. This experience in Mexico has impressed me so strongly that I have asked that there be a committee appointed, and it was appointed in September, at the last meeting of the American Public Health Association in Buffalo, to investigate and report upon the respective immunizing powers of human and bovine lymph."

DO PHYSICIANS ALWAYS PROTECT THE RIGHTS OF OTHERS?

It is an established fact that when a physician has visited a patient afflicted with an infectious disease no other patient should be seen by him until his person is entirely free from contagion. No one will controvert this statement. All agree. Then we know the right course to pursue—but do *all* physicians use these precautions? Let the reader hold a self-examination. Will the verdict be guilty or not guilty?

Are there not some physicians whose precautionary measures are superficial—merely an excuse to satisfy their consciences? Sometimes, when the question is propounded to an individual, the answer is a sickly smile, evidence of guilt due to ignorance or gross carelessness.

Preventive medicine is given recognition by the more learned men in medical science, and the enemies of anti-toxin, vaccination and sanitary science are, if nothing worse, tainted with the ideas of "ye olden time."

The three classes—careless, pseudo believers, and "antis"—become dangerous persons in a community when they are opponents to measures that modern sanitation has established as facts beyond a doubt.

HOUSE DISINFECTION AND ITS TECHNIQUE.

The principle upon which house disinfection depends is probably well understood, but it is necessary to be familiar with the technique in order to give intelligent instructions when interrogatories come from the family of a patient suffering from an infectious disease. The rules promulgated by Dr. J. N. Hurty, of the Indiana State Board, are among the best; any physician can obtain them by solicitation. The rules of the State and local boards are necessarily up to date, and are a safe guide and should be followed. If these facts had been given consideration by residents of Illinois it would have been unnecessary for Dr. J. Y. Shamel to card the "Philadelphia Medical Journal" asking that the best method calculated to disinfect rooms after occupancy by a smallpox patient be published, stating that it would be of great interest to the Illinois readers of the "Journal." The writer suggested the name of Dr. Abbott or Dr. Welch as the author of the statement.

The secretary of the Illinois board has undoubtedly published instructions quite frequently, and no one is more competent than Dr. J. A. Egan, the secretary.

However, the reply by Dr. Welch is brief and complete in its details. It is as follows ("Philadelphia Medical Journal," January 25, 1902):

"Replying to the question of Dr. Shamel, I would say that after the sick chamber has been vacated, either by recovery or death of the patient, every article in it of no great value should be immediately burned. Articles which it may be desirable to preserve, and which will not be injured by water, can be disinfected safely and cheaply by immersing them in boiling water for thirty minutes and then subjecting them to the ordinary process of the laundry. But if this cannot be done at once, such articles should be immersed for four hours in some reliable disinfectant, such as mercuric chloride, in the proportion of 1 to 2,000, or carbolic acid, 1 to 50, and subsequently boiled. For the disinfection of woolen clothing, carpets, bedding and the like, there is nothing equal to steam under pressure. All pathogenic germs will certainly perish if exposed for thirty minutes to this agent at a temperature of 230° to 250° F. When, however, this process cannot be carried out for the want of proper facilities, the articles named, with the exception of the carpet, which may remain on the floor, should be hung up in the room and subjected to the influence of formaldehyde. This may be very conveniently and effectively used in the form of formalin. The formalin may be diluted with two parts of water and used in a large atomizer, such as is commonly employed in the spraying of garden plants. In determining the amount required to disinfect a room, the estimate should be on the basis of one pint of formalin to every one thousand cubic feet of air space. Of course, the room should be as tightly sealed as possible, and left closed for eight to twelve hours. This method of disinfecting rooms was adopted by the Philadelphia Board of Health after having proved its efficacy by culture tests.

"When this process is finished and the room opened and ventilated, all surfaces, including the furniture, should be washed with a disinfecting solution (carbolic acid, 1 to 50, or mercuric chloride, 1 to 1,000), and afterward the floor and woodwork thoroughly scrubbed with soap and water. The wall paper, if there be any, should be well moistened with the carbolic acid solution and scraped off and burned. Paper may be reapplied or the walls whitewashed, according to fancy. I believe that any infected room could be considered safe for occupancy after having been faithfully subjected to the treatment herein outlined."—*Medical and Surgical Monitor.*

MORTALITY AND MORBIDITY REPORTS AND REVIEWS.

NEW YORK.—Bulletin of State Department of Health for December, 1901: Population, 7,268,000; deaths, 10,375; death rate, 16.7; deaths under five years, 2,579; at seventy years and over, 1,855; from zymotic diseases per 1,000 from all causes, 104; cerebro-spinal meningitis, 38; typhoid fever, 106; malarial diseases, 24; smallpox, 15; scarlet fever, 81; measles, 126; erysipelas, 30; whooping cough, 52; croup and diphtheria, 341; diarrhœal diseases, 213; acute respiratory diseases, 1,923; consumption, 1,050; puerperal diseases, 94; diseases of the digestive organs (not diarrhœal), 562; of the urinary system, 835; circulatory system, 1,103; nervous system, 1,123; cancer, 442; old age, 491; unclassified, 1,210.

City of New York, 3,536,517; deaths, 5,659; death rate, 18.8; deaths under five years, 1,778; from zymotic diseases per 1,000 from all causes, 120; typhoid fever, 71; smallpox, 11; scarlet fever, 54; measles, 105; croup and diphtheria, 209; acute respiratory diseases, 1,233; consumption, 606; cancer, 227.

In this city there are now 155 vaccinators at work, and it is reported that about 10,000 persons are vaccinated daily. Besides, at the headquarters, at Fifty-fifth street and Sixth avenue, Manhattan, and the old quarters in Brooklyn, five additional places for public vaccination have been opened. It has been decided to remove all smallpox patients in Brooklyn in future to the Contagious Diseases Hospital in Kingston avenue instead of the hospital on North Brother Island, so as not to expose them to the long trip up the river. The Board of Trustees of Bellevue and allied hospitals have issued an order to the effect that all patients received at Bellevue and the allied hospitals shall be vaccinated on their reception in the institutions, except where the condition of the patients is such as to render the operation inexpedient.

Borough of Manhattan, 1,873,562; deaths, 3,206; death rate, 20.0; deaths under five, 1,117; zymotic diseases per 1,000 from all causes, 109; typhoid fever, 37; smallpox, 1; croup and diphtheria, 115; acute respiratory diseases, 724; consumption, 296; cancer, 126.

Borough of the Bronx, 222,124; deaths, 424; death rate, 23.0; deaths under five, 11; from zymotic diseases per 1,000 from all causes, 84; smallpox, 9 (smallpox hospital in this borough); acute respiratory diseases, 69; consumption, 85; cancer, 11.

Borough of Brooklyn, 1,209,064; deaths, 1,754; death rate, 17.0; deaths under five, 485; deaths from zymotic diseases per 1,000 from all causes, 116; smallpox, 1; croup and diphtheria, 70; acute respiratory diseases, 382; consumption, 205; cancer, 79.

Borough of Queens, 162,834; deaths, 183; death rate, 13.4; deaths under five, 50; from zymotic diseases per 1,000 from all causes, 110; croup and diphtheria, 10; acute respiratory diseases, 39; consumption, 11; cancer, 4.

Borough of Richmond, 68,933; deaths, 92; death rate, 16.0; deaths under five, 15; from zymotic diseases per 1,000 from all causes, 75; acute respiratory diseases, 19; consumption, 11; cancer, 7.

Albany, 94,151; deaths, 138; death rate, 17.3; deaths under five, 14; from zymotic diseases per 1,000 from all causes, 50; acute respiratory diseases, 20; consumption, 30; cancer, 13.

Syracuse, 108,374; deaths, 107; death rate, 12.0; under five years, 21; from zymotic diseases, 78; acute respiratory diseases, 9; consumption, 14; cancer, 7.

Buffalo, 352,387; deaths, 446; death rate, 15.0; deaths under five, 132; from zymotic diseases per 1,000 from all causes, 166; from acute respiratory diseases, 70; consumption, 39; cancer, 16.

Rochester, 162,608; deaths, 205; death rate, 15.2; deaths under five, 29; from zymotic diseases per 1,000 from all causes, 65; from acute respiratory diseases, 27; consumption, 28; cancer, 11.

Total deaths in the State for the year 1901, 129,257; death rate, 17.8; deaths under five, 35,775; from zymotic diseases per 1,000 from all causes, 145; from typhoid fever, 1,741; croup and diphtheria, 3,026; diarrhœal diseases, 9,337; acute respiratory diseases, 17,589; consumption, 13,766; cancer, 5,033.

In addition to the 129,257 deaths for the year reported in the "Monthly Bulletin," there were 1,500 delayed returns, making the death rate 18.0 per 1,000 population. The mortality was 7,500 in excess of the average of the past five years, but the rate was the same as that of 1900. The sanitary districts all participate in the variations in mortality.

The *infant mortality* is unusually low, being 3,500 less than in 1900 and 2,500 less than the average of the past five years. This low rate prevailed throughout the State; it was unusually low in July, being less than in August and September. The deaths at seventy years and over were but one-third as many as those under five years in the maritime district; in the rest of the State they

exceeded them by 4,300, and constituted 27.0 per cent. of the total.

The zymotic mortality was 14.5 per cent. of the total, which is above the average. Diarrhœal diseases were excessive in the maritime district, but below the average in the rest of the State. Scarlet fever caused double the average number of deaths. On the other hand, diphtheria caused 500 fewer deaths than the average and was decreased throughout the State. Measles decreased everywhere from the high rate of last year. Typhoid fever was less prevalent, the decrease being most marked in the Hudson and Mohawk Valley districts.

Smallpox, following several months of absence, was widely disseminated in November, 1900, by a traveling troupe, and occurred from then to the end of 1901 in 110 localities; 1,100 cases existed in that time, besides 1,982 in the City of New York. There was but one case in fifty of these localities and one-half the entire number occurred in six localities. There were 445 deaths, 426 of which were in the maritime district; this far exceeds any former year. At the end of the year smallpox exists in sixteen localities, in all of which except Buffalo, lumber camps in the vicinity of Tupper Lake, Binghamton and Watertown, there is but one case.

The grippe epidemic has this year caused 7,000 deaths, against 11,500 in 1900, the average of eleven previous epidemics being 5.500. There were 1,600 fewer deaths than last year from acute respiratory diseases. About 70 per cent. of the deaths reported from acute respiratory diseases were from pneumonia.

CALIFORNIA.—San Francisco, 360,000. Report for December: Deaths, 586; death rate, 19.52; deaths from specific febrile diseases, 28; from diphtheria, 19; consumption, 81; acute respiratory diseases, 76; cancer, 34.

Los Angeles, 120,000. Report for January: Deaths, 221; death rate, 18.41; deaths under five years, 24; deaths from specific infectious diseases, 55; from diseases of the respiratory organs, 65; tuberculosis of the lungs, 39; of the meninges, 11; abdominal viscera, 2; other organs, 2; general, 2; phthisis, 11.

"There were 57 deaths from tuberculosis, divided as follows: Natives of Los Angeles, 1; natives of the Pacific Coast outside of Los Angeles, 6; from other parts, 33; of the 57 deaths from tuberculosis 21 had lived here less than three months, 3 between three and six months, 4 between six and twelve months, 7 between one and five years, 11 between five and ten years, 9 over

ten years, 1 life, unknown, 1." Deaths from acute respiratory diseases, 54.

CONNECTICUT.—State Board Bulletin for January: Deaths, 1,172, 27 more than in December and 267 less than in January of last year, and 157 less than the average number of deaths in January for the five years preceding.

The death rate was 15.6 for the large towns, for the small towns 15.0, and for the whole State 15.4.

The deaths reported from infectious diseases were 243, being 20.7 per cent. of the total mortality.

DISTRICT OF COLUMBIA, 278,880. Report for the week ending February 1: Deaths, 107—62 white, 45 colored; death rates respectively, 15.9, 26.1, 19.0. The mortality among children under five years of age rose from 16 to 35, among those under one year old from 14 to 27, of those 11 being premature births. From consumption deaths decreased from 16 to 10 and from pneumonia from 27 to 16. There were 3 fatal cases of typhoid fever, 3 of grippe and 2 of diphtheria. By violence 9 deaths occurred, 3 of which were suicidal, 2 homicidal and 4 accidental.

Of *smallpox* there were 4 cases under treatment in the hospital. No new case developed during the week, and 1 being discharged left 3 cases in isolation in the hospital at the closing of this report.

To Circumvent Smallpox.

ILLINOIS.—An extraordinary effort was undertaken by the Health Department of Chicago about the 1st ultimo, for the circumvention of smallpox on a large scale. Its field is an area of some 600,000 square miles of territory in the ten States, of which Illinois is the southern center, and the remotest boundaries of which are within a few hours' railway travel from Chicago. Between December 28, 1900, and January 24, 1901, there were only 1,070 smallpox cases reported in this territory, while during the similar period ended January 24, 1902, there were 10,820 cases reported, an increase of 911 per cent. At a conference between the representatives of the chief railroads centering in Chicago and the Health Department, ready assent was given to the plan proposed which contemplates wholesale vaccination and revaccination in every infected locality; the provision and maintenance of suitable isolation hospitals where necessary; thorough disinfection of smallpox premises and belongings; strict inspection of all persons offering to travel from infected localities and refusal to carry those

who do not comply with the requirements. Special attention will be paid to the condition of employees in manufacturing establishments—particularly those of textile fabrics—and the railways will set the example by still more rigorously making recent vaccination a condition of further employment. Competent vaccinators and supplies of pure, tested vaccine lymph will be furnished gratis in all proper cases. The work along each railway line will be under the direct charge of the medical director or chief surgeon of the company and a central office will be maintained in the city for the receipt of reports, requisitions, etc., from those engaged in the campaign. Dr. Reynolds has volunteered to take charge of the central office. Bulletin of the department for the week ending February 8 summarizes "Public Health Reports," and shows that:

Three-fourths of all the reported cases of smallpox in the United States at the present are in the territory surrounding and tributary to Chicago, and in a population of only about one-third the total population of the country. The data for this statement are found in the current number of United States "Public Health Reports," in a tabulation of "smallpox in the United States as reported to the Surgeon-General, U. S. M. A., December 28, 1901, to January 31, 1902." The total cases so reported foot up 11,167, of which number 8,147, or 73 per cent., are in Chicago territory. During the corresponding period last year the proportion was almost exactly reversed—30 per cent. in Chicago territory and 70 per cent. in the rest of the country.

The reports from much of the Chicago territory are notoriously defective. For example, the table gives for the period only 6 infected points and 174 cases in Illinois; during the week reports of 20 infected points and 645 cases for the period were received. In Indiana only 2 infected points and 18 cases are given in the table; 30 infection centers and a corresponding number of cases are known; in Michigan only 2 instead of 140 infected localities and 13 instead of upward of 300 cases. Only one infected locality is given in Missouri, but scores more are known and there are in the neighborhood of 250 cases in St. Louis alone, according to a press dispatch which gives Health Commissioner Starkloff as authority. Not a single case is reported in Des Moines, Iowa, and only 95 cases in the whole State; yet the State Board of Health has taken radical measures with the capital city of Iowa and before adjourning on the 8th inst. adopted the following preamble and resolution:

"*Whereas*, Cases of smallpox exist in nearly every county in this State; and

"*Whereas*, Smallpox has occurred in the families or persons of some of the postmasters of the State;

Therefore, *Resolved*, by the State Board of Health of the State of Iowa, that the Postmaster-General be requested to require, so far as possible, all postmasters in Iowa and their employees, including city and rural carriers with their families, to be vaccinated, and to furnish to the local boards of their respective localities satisfactory evidence of successful vaccination."

On the other hand, for Wisconsin, the "total for State" is given in the table as 4,357, while in "same period 1901," the grand total for the entire United States was only two more, or 4,359.

Obviously, the department began its campaign against smallpox none too soon, and the wisdom of its course in appealing to the railway companies as the interest most directly concerned, from a financial standpoint and as the most effective working agency, is already demonstrated. They have taken hold of the work in a thoroughly business-like fashion, and it is not too much to expect that the epidemic will be practically under control within the next three weeks. There will be no occasion for "insuring against smallpox," as is being done in England, if the principles of the "Vaccination Creed" be faithfully carried into effect. The department is ready to insure any one against smallpox who will conform to the "Creed."

Vaccination is the only certain insurance against smallpox.

The wonderful immunity of Chicago from the disease still continues. During the week 28 "suspects" cases were examined by the medical inspectors, but only four were found to be genuine cases. Of these there came by rail—one from Mexico, one from Elkhorn, Wis., one from Calvary, Wis., and one by boat from Milwaukee. None had ever been vaccinated. No Chicago case developed during the week and at midnight of the 8th there were 18 cases all told in the isolation hospital.

INDIANA.—The monthly reports to the State Board of Health for January show a decided improvement in the health of the State as compared with the preceding month and as compared with January, 1901. The number of deaths reported this month was 2,829, annual rate 13.2 per 1,000. In January, 1901, there were 3,460 deaths, rate 15.2. In the preceding month, December, 1901, there were 2,342 deaths, rate 13.3. The comparison

of January, 1902, and January, 1901, for preventable diseases is respectively:

Consumption, 337 and 348; pneumonia, 427 and 622; typhoid fever, 71 and 68; cerebro-spinal meningitis, 16 and 39; influenza, 64 and 253.

The deaths by important ages, comparing January, 1902 and 1901, were respectively: Under one year, 402 and 516; one to five years, 187 and 239; sixty-five years and over, 808 and 994.

The number of deaths from the following important causes were: Violence, 117; smallpox, 5; cancer, 83; puerperal fever, 12, diarrhœal diseases, 20; whooping cough, 18; measles, 2; scarlet fever, 23; diphtheria, 4.

All cities representing a population of 857,840 had 1,120 deaths; rate, 15.4. The country, representing a population of 1,658,622, had 1,709 deaths; rate, 12.1.

Smallpox was reported in 31 places, with an aggregate of 461 cases with 5 deaths.

IOWA.—Bulletin of State Board for January reports the existence of infectious diseases during the previous month: Diphtheria in twelve localities; scarlet fever in twenty-one; *smallpox in one and six!* Verily, ere long the tables will be turned—it will be easier to report the number of localities where smallpox does not exist.

LOUISIANA.—New Orleans, 300,000 (80,000 colored). Report for December: Total deaths, 566 (207 colored); death rates, white, 19.38; colored, 31.61; 22.64; deaths under five years, 92 (36 colored); from typhoid fever, 6; malarial diseases, 4; scarlet fever, 6; whooping cough, 1; croup and diphtheria, 5; consumption, 52 (30 colored); cancer, 17.

MARYLAND—The Negro Insane.—In the report of the Lunacy Commission to the Governor, Dr. John Morris, president, calls attention to the neglect of the negro insane in Maryland. Insanity is rapidly increasing among the negro population as the result of the idleness, lawlessness, debauchery, drunkenness, poverty, etc., so prevalent among them. Maryland is far behind her sister States of the South in the care of such cases, notably Virginia, North Carolina, Georgia and Alabama.

MICHIGAN.—The Secretary of the State Board reports for January (five weeks, ending February 1): Compared with the preceding month, pneumonia and measles were more prevalent; and

typhoid fever, intermittent fever, diphtheria and cerebro-spinal meningitis were less prevalent; compared with the average for January in the ten years, 1892-1901, scarlet fever, smallpox and measles were more than usually prevalent; and influenza, consumption, intermittent fever, remittent fever, diphtheria and cerebro-spinal meningitis were less than usually prevalent.

Including reports by regular observers and others, cerebro-spinal meningitis was reported present at 9 places; whooping cough at 45 places; diphtheria at 68 places; measles at 98 places; typhoid fever at 100 places; smallpox at 209 places; consumption at 232 places and scarlet fever at 237 places.

Reports from all sources show cerebro-spinal meningitis reported present at 3 places more; whooping cough at 13 places more; diphtheria at 17 places less; measles at 59 places more; typhoid fever at 9 places less; smallpox at 68 places more; consumption at 28 places more, and scarlet fever at 53 places more, in the month of January, 1902, than in the preceding month.

Smallpox.—Since the first of January, 1901, outbreaks of smallpox in 507 localities in Michigan have been caused to cease; and in 331, or 65 per cent. of those outbreaks, the disease was restricted to the one household where the first case occurred. Notwithstanding this record of effective work by the health services, State and local, the disease continued to spread, because in the other outbreaks where the disease was not restricted to the first household, it was first called "Cuban itch," "cedar itch," syphilis, chicken-pox, impetigo contagiosa, or acne, and not reported to the health officer so that the restrictive measures could be taken. Because of such lack of proper reports, smallpox continued to spread. It is now present in 54 counties, at 149 places in Michigan, 10 places more than in the preceding week.

Deaths returned to the Department of State for the month of January, 1902, were 2,824, an increase of 54 deaths over the number returned for the preceding month. The death rate was 13.5 per 1,000 population, the same as for December. There were 442 deaths of infants under one year of age, 197 deaths of children aged one-quarter year, inclusive, and 910 deaths of elderly persons aged sixty-five years and over. Important causes of death were as follows: Tuberculosis of lungs, 182; other forms of tuberculosis, 18; typhoid fever, 45; diphtheria and croup, 39; scarlet fever, 34; measles, 24; whooping cough, 19; pneumonia, 378; influenza, 64; cancer, 125; accidents and violence, 147. There was a slight increase in the number of deaths from pulmonary tuberculosis and

pneumonia, and a considerable decrease in the mortality from diphtheria and croup, as compared with the preceding month.

DOCTOR'S BILL.—The court considers valid the bill for $1,000 presented by Dr. William Wilson, of Coldwater, Mich., for attending a family stricken with smallpox and effectually preventing it from spreading further.

MINNESOTA.—Minneapolis, 240,000. Report for January: Total death, 185; death rate, 12.11; deaths under five years, 31; from typhoid fever, 3; croup and diphtheria, 6; other diseases of the respiratory apparatus, 32; consumption, 23; cancer, 9.

St. Paul, 165,000. Report for December: Deaths, 135; death rate, 9.81; deaths under five years, 48; deaths from typhoid fever, 2; diphtheria, 4; scarlet fever, 4; consumption, 21; from acute respiratory diseases, 20; cancer, 6.

MISSOURI.—St. Louis, 598,000. Report for December: Total deaths, 983; death rate, 19.71; deaths under five years, 226; from typhoid fever, 20; scarlet fever, 12; whooping cough, 2; croup and diphtheria, 18; consumption, 109; other respiratory diseases, 226; cancer, 21.

NEW JERSEY.—Hudson County (Jersey City and environs), 386,048. Report for November: Total deaths, 539; death rate, 16.7; deaths under five years, 156; from typhoid fever, 4; croup and diphtheria, 26; all zymotic diseases, 53; consumption, 71; pneumonia, 72; bronchitis, 19.

Paterson, 108,529. Report for November: Deaths, 133; under five, 36; death rate, 14.68; deaths from diphtheria, 2; consumption, 8; pneumonia, 22; bronchitis, 5; other lung diseases, 3; cancer, 6.

Newark, 250,000. Weekly reports January 4 to February 8. For the week ending February 8: Deaths, 113; under five years, 33; from specific infectious diseases, 14—7 from *smallpox*; from consumption, 5; pneumonia, 15; cancer, 1.

State Board of Health Report for the fiscal year ending June 30, 1901: The estimated population of the State, as shown by the report, is 1,925,721, and during the year ending June 30, 1901, there were 33,804 births recorded. This is equivalent to a birth rate of 17.549 for each thousand of the estimated population. There were 15,857 marriages, a marked increase. This increase is attributed to the prosperous condition of business throughout the State. In 1879 there were 7,096 marriages, and in 1885, 8,989. Then marrying became popular suddenly, and in 1886

there were 12,351 marriages recorded. The number kept increasing steadily and rapidly until 1896, when the high-water mark was reached and 18,370 were recorded. In 1897 there were 18,171. These were the halcyon days of marrying persons by Jersey justices of the peace, the unrestricted authority contained in the laws for the performance of the ceremony turning the State into a veritable Gretna Green. Then the marriage license law was passed and New Jersey ceased to be the Mecca for runaway couples and love-lorn youths whose tender years precluded a union in their own homes.

All this is indicated in the report, which shows that in 1898 only 13,213 marriages took place, or nearly 5,000 less than the preceding year. Since then the increase has been slow and, as the State Board considers, proportionate to the growth in population and the activity in business circles.

Turning to the matter of deaths, the report shows 31,048 in the State, or a death rate of 16.12 per one thousand inhabitants.

Just before the report was handed to the Governor the following statement of the smallpox outbreak was prepared by the State board:

The year ending December 31, 1901, has been marked by an outbreak of *smallpox* in the State, and over 600 cases have been reported in that period. At the termination of the year 1900 there were a number of localities in the State in which the disease existed, but from January 1, 1901, to the end of February the indications were that the disease was under control. At this time, however, cases were reported in Newark, and the source of infection was traced to tramps coming from New York. The existence of the disease in New York City was probably the origin of the outbreak in Newark. From Newark the disease extended to a number of adjacent localities. In the southern part of the State, more especially in Gloucester County, over forty cases were reported, and to this outbreak a number of cases that occurred in surrounding districts were traced.

North Carolina.—The State Board of Health Bulletin reports for December: Total deaths in 24 towns, with an aggregate population of 136,920 (54,500 colored); deaths, 183—103 colored; death rates, white, 12.1; colored, 22.7; 160; deaths under five years, 38; from pneumonia, 31; consumption, 25—12 colored.

Ohio.—Sanitary Bulletin, five weeks ending January 5: Cases of infectious diseases reported to the State Board of Health, 68

places reporting, aggregate population, 1,408,008: Croup and diphtheria, 440 cases, 59 deaths; scarlet fever, 554, 83 deaths; typhoid fever, 333, 59 deaths; whooping cough, 31, 4 deaths; measles, 2,004, 17 deaths.

Smallpox, 47 places, 233 cases, with 9 deaths; 55 of the cases, with 1 death in Cincinnati; 32 with 7 deaths in Youngstown; 34 cases in Hicksville, 16 in Recovery Township.

PENNSYLVANIA.—Philadelphia, 1,293,697. Reports for four weeks severally, ending February 1: For the fourth week, deaths, 530; under five years, 149; from typhoid fever, 21; smallpox, 13; croup and diphtheria, 17; consumption, 51; pneumonia, 98; cancer, 77.

Pittsburg, 346,000. Reports for five weeks severally, ending February 8: For the week ending February 8, deaths, 140; death rate, 21.04; deaths under five, 41; from diphtheria and croup, 3; typhoid fever, 10; consumption, 7; pneumonia, 26; cancer, 5.

UTAH.—Salt Lake City, 70,000. Report for January: Total deaths, 17; annual death rate, 2.72; deaths from zymotic diseases, 4; pulmonary tuberculosis, 3; cancer, 3.

HAVANA, 271,363—72,492 colored. Report for December: Total deaths, 463; annual death rate, 20.47.

Taking the last nine years of Spanish rule, from 1890 to 1898, inclusive, the minimum number of deaths for December occurred in 1893, when there were 517, with a death rate of 28.32; the maximum, 1,924 deaths, in 1897, giving a rate of 100.08 per 1,000.

Taking the three years of American occupation, for December, 1899, 534 deaths; 1900, 485 deaths, and for 1901, 463 deaths, showing a progressive decrease, which is the best indication of the general sanitary condition of the city, and places Havana in the class of healthy cities of the civilized world having an equal population.

Very few cases of infectious diseases occurred during the month and not a case of either yellow fever or smallpox. The last case of smallpox occurred in July, 1900, and the last case of yellow fever on the 28th of September, 1901. There were but four deaths from typhoid fever during the month.

CITY OF MEXICO, 368,777. Bulletin for November, 1901: Total deaths, 1,608; under five years, 664. Annual death rate, 52.2. Causes: Typhoid fever, 4; typhus, 99; whooping cough, 22; diphtheria, 4; grippe, 5; tuberculosis, 125; syphilis, 9; cancer,

16; meningitis, 36; cerebral hemorrhage, 30; heart diseases, 61; bronchitis, 119; broncho-pneumonia, 71; pneumonia, 96; congestion of the lungs, 13; infantile diarrhœa, 14; diarrhœa and gastritis, 340; cirrhosis of the liver, 21; accidents, 33; alcoholism, 12; other causes—not specified, 411.

TUBERCULOSIS IMMIGRANTS.

Concerning the decision made recently by the Treasury Department of the United States upon recommendation of the surgeon-general of the Marine Hospital Service to classify pulmonary tuberculosis with dangerous contagious diseases, the New York Academy of Medicine, at a meeting held February 6, adopted, by a large majority, the following resolutions:

"*Resolved*, That the New York Academy of Medicine deeply deplores this decision, which is not based either on clinical experience or on scientific experiments.

"*Resolved*, That the Academy considers the exclusion of non-pauper tuberculous immigrants and consumptive aliens visiting our shores unwise, inhuman and contrary to the dictates of justics.

" Be it further *Resolved*, That while the Academy is convinced of the communicability of tuberculosis and urges all possible precautions against the spread of the disease occasioned by sputum and tuberculous food, the Academy is opposed to all measures by which needless hardship is imposed upon the tuberculous individual, his family and his physician."

PLAGUE INFECTION BY SHIP-BORNE RATS.

A synopsis in Public Health Reports of an article by Professor Kossel, of the Imperial Health Office at Berlin, and Dr. Nocht, of Hamburg, makes it clear that the chief method of transmission of plague germs is by ship-borne rats. From Asia to the coast and thence slowly from port to port westward on the lines of the great sea traffic, the disease has been borne, and almost always without the existence on ships of plague-stricken human beings. Bacteriologists have proved that rats may and in all probability have been the agents of the transmission. Recently two ships have arrived in Europe from Smyrna in which no plague existed among the people on board, but in which it was demonstrated that the rats had the disease. Such facts show that the disease may at any time be introduced among us by this method and that stringent measures of protection are demanded.

SMALLPOX.

Reports received by the Marine Hospital Service for the week ending February 8 showed that there were at that time 12,122 cases of smallpox in the United States, as compared with 4,359 at the same period in 1901. The number of deaths from smallpox for the week was 290, as compared with fifty-five for the same week of last year.

MANUFACTURERS OF DISINFECTION APPARATUS VS. VACCINATION.

There lies before us ("American Medicine," February 15) a signed circular of a disinfection device, in which the advertiser is far from hinting at the existence of any anti-vaccination virus in his own person. A letter accompanies the circular in which it is said that "the best means for the prevention of smallpox should be adopted; that many people have been vaccinated and have suffered severely; that some of those vaccinated have also been victims of smallpox; and that a number have been vaccinated, but owing to the inert virus it has not taken. The only positive, safe means is thorough disinfection, etc." This letter, with its "insinuendos," is only a part of the hypocritic plot. In the envelope is an unsigned circular, in which neither the proprietary disinfection device nor the advertiser's name is mentioned. It has the following scare-headlines:

HOW SMALLPOX WAS ROUTED BY VAPOR.

Cleveland, O., Freed from the Disease When Vaccination Failed.

TOM JOHNSON'S MAN DEFEATS SMALLPOX.

Made Health Officer by Accident. Dr. Friedrich Successfully Combats Epidemic—And Not an Arm Bared.

In the yellow journal accounts quoted in this circular, the following sentences strike the eye:

"Quarantining and vaccination seemed to have no effect."

"No man had to bare his arm."

"Disinfection is the thing to prevent the spread of smallpox. Smallpox germs will not thrive where it (sic!) is properly disinfected."

And physicians are asked to buy and recommend this manufacturer's disinfection apparatus!

THE AMERICAN CONGRESS OF TUBERCULOSIS.

The congress decided, at its second annual meeting, 1901, to make a permanent organization, and to that end instructed its executive officers to select vice-presidents for each State and Province of both American continents.

The third annual session of this congress is announced to be held on the 14th, 15th and 16th of May, 1902, at the Hotel Majestic, Seventy-second street and Central Park, West, in the City of New York, in joint session with the Medico-Legal Society. There will be two sessions each day and no evening session, except on the 15th, when the banquet will be given. This will enable delegates from distant States and countries to enjoy the amusements and attractions of the city.

Arrangements will be made with railway companies for a reduced rate of fare, the details of which will be announced to the delegates.

In addition to the vice-presidents chosen at the sessions of May 15 and 16, 1901, the executive committee have authorized the appointment of three vice-presidents from each State, country or province, and an honorary vice-president from each. Under this authorization about seventy additional vice-presidents have been named, who have already accepted, but in some of the countries and States all of them have not yet been named. Of the honorary vice-presidents all but two of the Provinces of the Dominion of Canada have accepted already, and six from Governments. Among those who have accepted from the American States, already, five are governors of States and others high public officers.

When completed, these officials will be all duly announced. There will be, aside from all papers of a miscellaneous nature, four symposiums, arranged each to occupy one session of the body, viz.:

1.—Preventive legislation, embracing the social, municipal, and State aspects of tuberculosis. (What aid should be expected from the State in the cure and prevention of tuberculosis, and how shall this be secured?)

2.—Tuberculosis in its pathological and bacteriological aspects.

3.—The medical and surgical aspects of tuberculosis. (Embracing sanitoria and climatic conditions, light and electricity.)

4.—The veterinary aspects of tuberculosis.

These will each be in charge of a committee, who will arrange for the opening papers, and for those who participate. These committees will be arranged with great care and duly announced.

A large number of the enrolled members have already announced the titles of their papers for the session of 1902, and a still larger number have sent their names to the secretary, who will contribute papers and send the titles later.

The presidents of the Central and South American republics, and all Governments on the American continent, have been invited to send delegates and to name suitable persons to act as vice-presidents, and their men of science requested to enroll and contribute to the work of the congress, many of whom are already represented by delegates. No attempt will be made to classify and arrange these until the programmes can be announced, but, if thought advisable, a preliminary announcement will be made, one month before the annual meeting, of the titles of papers and names of authors.

Those who were named as delegates by the governors of States, or medical or scientific bodies, for the session of 1901, are cordially invited to enroll for the congress of 1902. The enrolling fee will be $3. which will entitle the member to the Bulletin of the congress of 1902.

All medical bodies and scientific or legal associations, or associations of the Bar, are invited to send delegates to the congress, who will be given the rights of the floor and a vote at the session.

There will be named a local committee for the session, of strong names, who will do everything in its power to make the occasion one of great interest and pleasure to enrolled members.

The enrollment is open to members of both professions in every State, county or province on the continents of America, in the Western Hemisphere, and in American waters, and papers are promised and will be solicited from all who are interested, in foreign countries.

For details and enrollment, address,

CLARK BELL, Secretary,
39 Broadway, New York City.

OFFICERS FOR 1902.

Honorary president, A. N. Bell, M. D., Brooklyn, N. Y.; president, Henry D. Holton, M. D., of Vermont, secretary State Board of Health, Brattleboro, Vt.; vice-presidents, Henry B. Baker, M. D., Lansing, Mich.; E. T. Barrick, M. D., Toronto, Ont.; Wm. Bayard, M. D., St. John, N. B.; Raley Husted Bell, M. D., New York City; A. C. Bernays, M. D., St. Louis, Mo.; J. Mount Bleyer, M. D., New York City; Geo. Brown, M. D., Atlanta, Ga.;

W. L. Bullard, M. D., Columbus, Ga.; E. Chancellor, M. D., St. Louis, Mo.; C. K. Cole, M. D., Helena, Mont.; T. D. Crothers, M. D., Hartford, Conn.; Judge Abram H. Dailey, Brooklyn, N. Y.; Hon. Moritz Ellinger, New York City; Juan A. Fortich, M. D., Cartagena, Colombia, S. A.; R. F. Graham, M. D., Greely, Colorado; A. P. Grinnell, Burlington, Vt.; Major A. Havard, U. S. A., Havana, Cuba; Thos. Bassett Keyes, M. D., Chicago, Ill.; Luis H. Labayle, M. D., Leon, Nicaragua; E. P. Lachapelle, M. D., Montreal, Canada; Louis Leroy, M. D., Nashville, Tenn.; Dr. Edouard Licéaga, City of Mexico; Dwight S. Moore, M. D., Jamestown, S. Dak.; Wm. H. Murray, M. D., Plainfield, N. J.; J. A. McNeven, of Idaho; A. E. Osborne, M. D., Glen Ellen, Cal.; John H. Pryor, M. D., Buffalo, N. Y.; J. C. Shrader, M. D., Iowa City, Iowa; J. H. Tyndale, M. D., Lincoln, Neb.; C. S. Ward, M. D., Warren, Ohio; Prof. S. H. Weeks, M. D., Portland, Me.; Cressy L. Wilbur, M. D., Lansing, Mich.; U. O. B. Wingate, M. D., Milwaukee, Wis.; C. F. Ulrich, M. D., Wheeling, W. Va.; secretary and treasurer, Clark Bell, Esq., city of New York.

The full list of officials, members and delegates named by the governors of our States, and those of foreign countries, will be shortly published, with the titles and authors of papers, of which a large number have already announced their names and title of contributions. They will be given in full in our next issue.

Arrangements will be made with railways for reduced rates for delegates, of which details will be announced later on.

The banquet will be given on the evening of the 15th of May, with price per plate at $2 each, exclusive of wine.

There will be a strong effort made to organize a museum, for which the Hotel Majestic will furnish a suitable room on the floor above the parlors.

Every medical society, every academy of medicine in the United States, in the Canadas and in the South and Central American States, and the Bar associations and legal societies are invited to send delegates, and the governors of all the States, provinces and countries will be also invited to send delegates, so that the whole of both continents of the Western American Hemisphere may be represented in this work.

Those wishing to enroll can send their names to the secretary, and the enrolling fee of $3 which will entitle them to all Bulletins of the congress free.

HENRY D. HOLTON, President.
CLARK BELL, Secretary.

BOOK REVIEWS.

HYGIENE OF THE DWELLING. L'HABITATION.—Procédés de recherche et de controle, par HENRI BERTIN-SANS, Professeur Agrégé à la Faculté de Médecine de Montpellier, laureate de l'institute (Académie des Sciences). Preface par M. BROUARDEL, Doyen et Professeur de la Faculté de Médecine de Paris, Président du comité consultatif d'Hygiène de France, Membre de l'Institute. FASCICULE PREMIER, L'EMPLACEMENT DE L'HABITATION. Avec 82 figures intercalees dans le texte. Librarie J. B. Baillière & Fils, 19, rue Hautefeuille, près du Boulevard Saint-Germain. Paris, 1902. Tout droits réservés.

"Hygiène Expérimentale."—This work, by one of the most distinguished hygienists of France, when complete, will consist of seven distinct fasciculi, embracing the following divisions of the subject: I. The location. II. The material of its structure. III. The atmosphere. IV. The lighting. V. The warming. VI. Ventilation. VII. Waste and filth.

M. Brouardel says, in his preface: "The treatise on 'Hygiène Expérimentale,' of which M. le Dr. H. Bertin-Sans has undertaken the publication, fills a void in our medical literature.

"Since the discoveries of Pasteur, the efforts of his French and foreign competitors, of his students and of hygienists, have been concentrated on the pathogenic nature of contagious and epidemic diseases; before the time of Pasteur spontaneity and specificity were the advanced terms of the theories most favored; thanks to the researches in the laboratories and to a more precise observation of the facts, hygienists have succeeded in determining the conditions on which diseases depend and the way in which they are propagated.

"The doctor who will compare the treatises which appeared twenty years ago and those that are now given to the profession will be enabled to judge of the advanced course that has since been followed.

"The early training of M. Bertin-Sans has familiarized him with the application of mathematics, and his later work with the experimental methods of physics and chemistry; he has treated the questions relating to the location of habitations, to the soil, the water, following strictly the rules that govern these sciences. He has compiled a work which the physician having little knowledge of the sciences would certainly be unable to make.

"This work thus fills a place hitherto unoccupied. Physicians who fill places on boards of health and are called upon to advise the administration on the projects of introducing water, on the removal of cemeteries, the purifying of foul ponds, all know the uncertain, the difficult, problems that are proposed for their solution."

This work of M. Bertin-Sans fills a place that the physician, unaided, could not hold. It will have a powerful influence on the future development of hygienic work. It will have another advantage. The doctor may point out the unhealthful conditions in a house, but he is often unable to specify the work to be done to render the place habitable. The engineer, the architect, charged with removing the danger rarely understands the case as presented by the doctor. The education, the language, the professional routine of the one differs materially from that of the other and a mutual understanding is prevented. I am convinced that the work of M. Bertin-Sans will render a mutual agreement much easier; it will bring about a mutual understanding between doctors and architects. T. P. C.

LEIBNITZ'S DISCOURSE ON METAPHYSICS, CORRESPONDENCE WITH ARNAULD, AND MONADOLOGY. With an historical and critical introduction by PAUL JANET, Member of the French Institute. Translated from the originals by Dr. George R. Montgomery, Instructor in Philosophy in Yale University, New Haven. Frontispiece: The Leibnitz monument near the Thomas-Kirche in Leipsic. Pages xxi, 272. Price, paper, 35 cents net, postage 8 cents extra; in England and the U. P. U., 2 shillings.

These three treatises of Leibnitz give a comprehensive survey of his philosophy in its genesis, its development and its final crystallized form, of interest to all readers who would become acquainted with philosophical deductions from the limited resources of learning before the age of experimental knowledge. Leibnitz was a pioneer in the abrogation of the ingenious conceptions of the peripatetics. "The Discourse on Metaphysics" was written in 1686, when Leibnitz was forty years of age, while the "Monadology" was composed and published just two years before his death. The "Discourse" was never published during Leibnitz's lifetime, and appears now not in all editions of his works. The "Correspondence with Arnauld," who was the Nestor and leading authority of the philosophy of the day, is a discussion of the important and fundamental metaphysical questions raised by Leib-

nitz in the "Discourse." It shows Leibnitz's metaphysical thought in all the interesting phases of its origin. The "Monadology" is the only one of these three treatises that has ever before been translated into English.

REPORT OF THE CHIEF OF THE WEATHER BUREAU, 1900-1901 (in two volumes). Vol. 1, 4to, pp. 318. A complete summary of the work of the Bureau for the period with notes and explanations of and in addition to the tabulated records, which, taken altogether, are of no less interest to sanitarians and physicians who are concerned for the health of the people generally, and for certain invalids in particular, with relation to climate, than are the forecasts and weather conditions to merchants and agriculturists; a service altogether of inestimable value, inadequately appreciated.

REPORT OF THE SECRETARY OF AGRICULTURE. DEPARTMENTAL REPORTS. For the fiscal year ended June 30, 1901. 8vo., pp. cxv, 344.

. . . "We buy annually $400,000,000 worth of the products of foreign fields, one-half of which will, at no distant time, be grown in the United States; the other half is the product of such climates as prevail in our new island possessions. It is the privilege and the duty of the Department of Agriculture to teach the people of those islands to produce what we now buy from foreign countries, that they may have incomes to help toward their growth in all desirable directions."

The topics discussed in the report are: The weather, animal industry, plant industry, oils, chemistry, forestry, experiment stations, entomology, public roads, publications, foreign markets, library, accounts and disbursements, biological survey, statistics, comprehending a fund of information of practical utility to all citizens who would understand the scope of the department.

REPORT OF THE COMMISSIONER OF EDUCATION FOR THE YEAR 1899-1900. Vol. 2, pp. 1,360. (Vol. 1 was reviewed in December number.)

This volume comprehends Contributions to the History of the Hopkins Grammar School, New Haven, Conn, 1660 to 1900; Language Question in Greece and Some Reflections Suggested by It; the Legislative Career of Justin S. Morrill; Miscellaneous Educational Topics; Educational Matters in Various States; Consular Reports; Sociology at the Paris Exposition of 1900; Education in the Philippines, Cuba, Porto Rico, Hawaii and Samoa; Education

at the Paris Exposition; Education in France; Report on Education in Alaska; Tenth Annual Report on the Introduction of Domestic Reindeer Into Alaska; City School Systems; Institutions for Higher Education; Professional Schools; Agricultural and Mechanical Colleges; Statistics of Normal Schools; Statistics of Secondary Schools; Manual and Industrial Training; Commercial and Business Schools; Education of the Colored Race; Statistics of Reform Schools; Schools for the Defective Classes; Current Topics; Statistics of Elementary Education in Foreign Countries. This mere enumeration of the subjects reported upon and discussed is abundantly suggestive of the value of the volume.

CONTEMPORARY LITERATURE.

AMERICA'S POSITION IN THE SCIENTIFIC WORLD.

The description given by Mr. Carl Snyder, in an article in the January number of the "North American Review," of the inferior position of America in the scientific world has aroused much discussion. Perhaps the greatest service Mr. Snyder's paper has done is that it has moved Professor Simon Newcomb, who may be regarded as the dean of the American corps of scientists, to call attention, in a masterly contribution to the February number of the same "Review," to certain "Conditions Which Discourage Scientific Work in America." Professor Newcomb points out that the scientific investigator in Europe is stimulated in his work by the consciousness that it receives the largest appreciation from all classes of the community, whereas Americans fail to accord a proper place to the individual investigator. Professor Newcomb concludes:

"I see but one cure for these conditions, but one way of introducing the academic element into the political atmosphere of our capital. It is to make Washington a center of learning in which all that is greatest in the human intellect shall be represented by leaders of world-wide reputation and strong personality, who can speak and act independently of Government control, and thus be free from the restraint which shackles the utterances of a public officer. The most effective way to bring this about would seem to lie through the establishment of a great university or other scientific institution having as little connection with Government as possible, yet not so foreign to it as to be of no interest to our

authorities. Great things may be hoped of the Carnegie Institution as a coming agency of reform. One is bewildered in trying to forecast the results of an enterprise starting on so magnificent a scale and under conditions so promising as this does. What can be said is that there is every prospect of its proving such an agency in the promotion of knowledge as the world has rarely seen. Let us hope that the historian of the future shall also be able to add that it was the agency that brought the politics and the learning of our country into sympathy and harmonious co-operation."

THE CARNEGIE INSTITUTION.

The Board of Trustees elected the incorporators to carry out the purposes of the institution is as follows:

Ex-Officio Members.

The President of the United States.
The President of the United States Senate.
The Speaker of the House of Representatives.
The Secretary of the Smithsonian Institution.
The President of the National Academy of Sciences.

Selected Members—Grover Cleveland, New Jersey; John S. Billings, New York; William N. Frew, Pennsylvania; Lyman J. Gage, Illinois; Daniel C. Gilman, Maryland; John Hay, District of Columbia; Abram S. Hewitt, New Jersey; Henry L. Higginson, Massachusetts; Henry Hitchcock, Missouri; Charles L. Hutchinson, Illinois; William Lindsay, Kentucky; Seth Low, New York; Wayne MacVeagh, Pennsylvania; D. O. Mills, California; S. Weir Mitchell, Pennsylvania; W. W. Morrow, California; Elihu Root, New York; John C. Spooner, Wisconsin; Andrew D. White, New York; Edward D. White, Louisiana; Charles D. Walcott, District of Columbia, and Carroll D. Wright, District of Columbia.

Mr. Carnegie's purpose, as stated by himself in requesting the various trustees to become members of the board, is as follows:

"It is proposed to found in the city of Washington, in the spirit of Washington, an institution which, with the co-operation of institutions now or hereafter established there or elsewhere, shall, in the broadest and most liberal manner, encourage investigation, research and discovery; encourage the application of knowledge to the improvement of mankind; provide such buildings, laboratories, books and apparatus as may be needed, and afford instruc-

tion of an advanced character to students whenever and wherever found, inside or outside of schools, properly qualified to profit thereby.

"Among its aims are these:

"To increase the efficiency of the universities and other institutions of learning throughout the country by utilizing and adding to their existing facilities and by aiding teachers in the various institutions for experimental and other work on these institutions as far as may be advisable.

"To discover the exceptional man in every department of study, whenever and wherever found, and enable him by financial aid to make the work for which he seems specially designed his life work.

"To promote original research, paying great attention thereto, as being one of the chief purposes of this institution.

"To increase facilities for higher education.

"To enable such students as may find Washington the best point for their special studies to avail themselves of such advantages as may be open to them in the museums, libraries, laboratories, observatory, meteorological, piscicultural and forestry schools and kindred institutions of the several departments of the Government.

"To insure the prompt publication and distribution of the results of scientific investigation, a field considered to be highly important.

"These and kindred objects may be attained by providing the necessary apparatus for experimental work, by employing able teachers from the various institutions in Washington or elsewhere, and by enabling men fitted for special work to devote themselves to it through salaried fellowships or scholarships, or through salaries with or without pensions in old age, or through aid in other forms to such men as continue their special work at seats of learning throughout the world."

THE NEW WASHINGTON.

Two Views After the Proposed Improvements Are Made.

It is announced that the "Century" will print in the February and March numbers an authoritative illustrated account of the plans for the further beautification of Washington, as devised by the Congressional Commission. A glimpse of the scale on which the improvements are projected may be had in these paragraphs from the first article in the February number, by Mr. Charles Moore, clerk of the Senate Committee on the District:

"Let one imagine himself standing on the western terrace of the Capitol on a summer afternoon. At the foot of the extended grounds great fountains toss clouds of refreshing spray into the heated atmosphere. From the foot of the Capitol hill to and up the monument slope, a mile and a half distant, two lines of stately elms march majestically in columns of fours, one column on each side of a carpet of greensward three hundred feet wide. Buildings of white marble gleam behind the rows of elms; where the streets cross the Mall great bands of light lie across the stretches of tree-shadow; carriages and riders pass and repass on the roadway half covered by the grateful shade, while pedestrians linger under the wide-spreading trees. Thus, by a simple device of planting, the monument is brought into the vista of the Capitol.

"Or, suppose that the observer stands at the monument, with his gaze still directed to the setting sun. The space about him, as extensive as the piazza facing St. Peter's, is flanked by elms beneath which children play. At his feet broad stairs lead down to a formal garden inclosed by wooded terraces; and from this garden the broad opening leads to a long canal, tree-bordered, as at Versailles. Nearly a mile away, where the axis meets the Potomac, is a great *round-point*, surmounted by a Doric portico commemorating the one man in our national history who is worthy to stand with Washington—Abraham Lincoln."

COTTON MILLS.

Cotton mills were in operation in the South before the war, but the idea of bringing the mills to the cotton instead of carrying the cotton to the mills did not seize upon the more energetic business men of the section until less than a score of years ago. Since then, however, they have striven to make up for neglected opportunities and they have succeeded surprisingly. There are to-day nearly four hundred cotton mills in active operation in the South, and if the knitting and woolen mills be included in the computation the aggregate runs up to fully half a thousand.—From "Awakening of the South," Walden Fawcett, *The Home Magazine* for February.

NEW YORK'S "RAINES LAW" HOTELS.

The purpose of this law was to enable a large number of saloons to become in the legal sense hotels, and in that capacity to do business on Sunday. These so-called "Raines law hotels" were obliged to have at least ten bedrooms, available for lodgers, and

always, on Sundays, to serve meals with drinks. The courts subsequently construed this last provision in the most technical sense, so that a single stale sandwich suffices to accompany hundreds of glasses of beer. Since for the most of these saloons it was not feasible to do a legitimate hotel business, the temptation was strong to allow the rooms to be rented for gambling and other objectionable purposes. There are more than twelve thousand drinking places in New York, and perhaps not far from three thousand of them are technically "hotels" under the Raines law. Almost every thoughtful person, whether in the liquor business or out of it, agrees that the Raines law has worked badly. The Reform Club, of New York, has come to the conclusion that the best present solution of the difficulty lies in so changing the Raines law that the technical hotel may become a technical restaurant. That is to say, the Reform Club's plan is to amend the law by abolishing the clause which requires the maintenance of bedrooms and the furnishings of lodgings. Under this amendment, all the present Raines law hotels would continue the sale of liquor on Sundays, and thousands of other saloons so situated as not to be able to furnish bedrooms could readily partition off a small dining-room, buy a few tables and sandwiches, and thus qualify legally as restaurants in order to sell drinks seven days in the week. The subject is a difficult one, with many phases; and those good people who see only one side and denounce the equally good people who hold a different opinion are certainly not the wisest students of the problem. Sunday-keeping, from the religious standpoint, is a matter of the private conscience. From the public standpoint, Sunday-keeping has great importance for two reasons—first, because of the absolute necessity that a day of rest should be preserved for the great mass of working men and women; and, second, because it is right that a Christian country should carefully promote the order, quiet and peace that belong to Sunday as a day of worship and as an essential factor in the moral progress and true civilization of the community.—From "The Progress of the World," in the *American Monthly Review of Reviews* for February.

A NEW DEPARTURE—HOMŒOPATHY NON EST.

The "American Homœopathist" has changed its name to the "American Physician," and it is a most sensible thing to do. Now, Brother Kraft, let us state our facts, and let our readers interpret them to suit themselves.

The use of the terms homœopathic and allopathic are obsolete, and it would be better if they were never used.

Hahnemann says in his "Lesser Writings," page 363, that "The rallying motto of a sectarian name is incapable of exciting to sober, calm, scientific investigation; it only rouses the explosive spirit of accusations of heresy to a fierce volcanic flame. Truth and weal of humanity should be the only motto of the genuine elucidators of the art, and the watchword of the brotherly, peaceful bond of reunion, without slavish adherence to any sectarian leader, if we would not see the little good that we know completely sacrificed to party spirit and discord." Thus saith the patron saint of the homœopathic school, and as to how faithfully his professional followers have accepted this dictum it is not necessary for us to answer.

We could say much more along this line, but we desist for the sake of harmony. We again assert, as we have so often done, that the sectarian title is the only barrier to complete unification of the profession.

Thus the "American Homœopathist" becomes the nondescript" "American Physician," and the act brings us one point nearer the goal which is sure to be reached. The homœopathic school has nothing left but its name, all else having been absorbed by the broad-minded physician of to-day, who will not tolerate sectarian designation any more than Hahnemann would. Why not at once take the advice of the sage of Köthen so that we may start the century with a single school in medicine?—*Medical Times.*

MURDER AS AN ART.

The term "art" is used for the reason that De Quincey so labeled it. He had a pretext. Had he wished he could have had a text.

Once upon a time people who got in the way were dosed with hemlock. Death came very agreeably. It neither convulsed nor distorted. It left the beauty of the victim unmarred, the features uncontracted, the mouth half closed. It left no trace, either. There is art. Whoso says art says Greece. In Greece poisoners were artists. That is, a number of centuries ago.

In the days that succeeded them, art persisted but methods changed. Occasionally people who were in the way did not wait to be killed, but killed themselves. That simplified matters. Occasionally, too, they were urged to die. It was the young Emperors of old Rome who did the urging. Yet sometimes they did

not bother. A lady named Locusta discovered a way of cooking mushrooms which was found to be very serviceable. Nero served it to his brother Britannicus. Agrippina set it before her husband, Claudian. Domitian administered it first to his father, Vespasian; next to his brother, Titus. They were all in the way. The mushroom stew dispersed them. What the ingredients were we may surmise and never know. It was an imperial dish, however, and as such reserved for the purple. Patricians, in their inability to obtain it, invented a needle and a ring.

Lampridus, or Spartian, or whoever the brute may have been that abridged a chronicle in the "Scriptores Historæ Augustæ," describes the needle. It had a poisoned tip. Those who liked gave a little prick to those they did not like, and the latter fell dead. This performance usually occurred in the Forum, where the crowd was such that the assassin could lose himself in it.

Samples of the rings, recovered from the ruins of Pompeii, any one may examine at Naples. They suggest nothing so much as vipers of gold. A receptacle, moved by a spring, contained poison which exuded at a touch. At table, in the animation of small talk, the assassin made but a gesture. On the food of his neighbor a drop would fall. The deed was done.—Edgar Saltus, in *Cosmopolitan* for February.

THE OUTLOOK.

Among the things of note in the February magazine number of "The Outlook," may be mentioned a beautifully illustrated article by Mr. George Kennan (now acting as "The Outlook's" Washington representative) on the proposal for enlarging the White House, with architects' plans; an article on Verestchagin, by Charles De Kay, of the National Arts Club, with reproductions of famous paintings; a portrait of President-elect Palma, of Cuba, taken by "The Outlook's" own photographer; "The Centenary of Victor Hugo," by Kenyon West, with portrait; "The Story of Home Gardens" (illustrated decoratively), which describes an interesting movement in Cleveland; Dr. Edward Everett Hale's "Memories of a Hundred Years," which deals this month chiefly with the war of 1812; a remarkable whole-page portrait of Archbishop Ireland; an article appropriate to Washington's Birthday, called "In the Footsteps of Washington," by Charles Hemstreet; together with the usual book reviews, history of the week and editorial comments on important questions of the day.

OUR QUEER LANGUAGE.

When the English tongue we speak
Why is "break" not rhymed with "freak"?
Will you tell me why it's true
We say "sew," but likewise "few";
And the maker of a verse
Cannot cap his "horse" with "worse"?
"Beard" sounds not the same as "heard";
"Cord" is different from "word";
"Cow" is cow, but "low" is low;
"Shoe" is never rhymed with "foe."
Think of "hose" and "dose" and "lose";
And of "goose"—and yet of "choose."
Think of "comb" and "tomb" and "bomb";
"Doll" and "roll"; and "home" and "some."
And since "pay" is rhymed with "say,"
Why not "paid" with "said," I pray?
We have "blood" and "food" and "good";
"Mould" is not pronounced like "could."
Wherefore "done," but "gone" and "lone"?
Is there any reason known?
And, in short, it seems to me
Sounds and letters disagree.

—Edwin L. Sabin, in February *St. Nicholas.*

FASHIONS OF TO-DAY.

While the long coat will be developed in light-weight materials and silk for spring, it will by no means supplant the short jacket made to match the skirt or in some stylish contrast. An unusually smart short garment may be made of either plain or bias tucked material, with the fronts forming the ends of a shawl collar that may be in plain or fancy outline; a seam on each shoulder and at the back are distinguishing features of this collar. The sleeves may be in plain coat style or belled at the wrist, as preferred. Tucked black taffeta, with Irish crochet for the collar, would develop an attractive jacket by this mode, which would be appropriate for wear with a variety of costumes.—*The Delineator* for March, profusely illustrated.

PROCTOR'S SEVEN THEATRES.

Great crowds continue to throng Proctor's theatres in New York and Newark. His theatres in Albany, where vaudeville is

featured, and in Montreal, where a permanent stock company is located, are also enjoying a highly prosperous season.

Sunday concerts are given at all of Manager Proctor's New York houses. The vaudeville talent which is employed during the week is augmented by special engagements for Sunday, and these concerts are known to be the best Sunday diversion in the metropolis. Manager Proctor was the first to give Sunday concerts, and he has always retained his prestige.

RECENT SANITARY PATENTS.

689,164.—Bath Apparatus, J. M. Carth, Lynn, Mass.

689,125.—Water Closet, John Reid, Yonkers, and Edward Hamman, Brooklyn, N. Y.—J. L. Mott Iron Works, New York.

689,679.—Water Closet, William H. Loyd, Boston, Mass.

689,957.—Portable Disinfecting Apparatus, William H. Francis, Philadelphia.

690,337.—Disinfecting Apparatus, I. Willetts, Bloomsburg, Pa.

690,252.—Heating and Ventilation of Buildings, Jessie D. Ennis, Troy, N. Y.

690,844.—Combined Spring-bed and Invalid-chair, James H. T. Edwards, Sanford, N. C.

690,866.—Disinfecting Sewer Vaults, Apparatus for, William Martin, Chicago, Ill.

690,867.—Compound for Disinfecting Purposes, Ibid.

691,153.—Live-saving Apparatus, I. W. Maccolini, Inwood, N. Y.

691,341.—Life-preserver, Chas. Gore, San Francisco, Cal.

691,312.—Ventilating Apparatus, John A. Hart, Blackburn, England.

691,545.—Portable Water Purifier and Filter, Chas. E. Holland, New York.

691,768.—Water Closet, Winfield R. Hinsdale, New York.

691,880.—Water Purifier, Ch. H. Snider, Lansing, Mich.

SANITARY SCIENCE.

A SYNOPSIS OF SANITARY SCIENCES AS REPRESENTED IN THE SANITARIAN, ALPHABETICALLY.*

BY THE EDITOR.

Cabell, J. G., National Legislation and Attempts at Legislation on Quarantine, xi, 1.

Cabell, J. L., Valley of the Hot Springs, Va., iv, 253; The Sanitarian, v, 185; Etiology of Enteric Fever, 326; State Medicine and Public Hygiene, vi, 180, 387; National Board of Health, viii, 1; x, 714; Plea for the Continuance of the Powers and Duties of the National Board of Health, xii, 396.

Cabin Boy, The, xi, 166.

Cadaveric Alkaloids, Barnhill, xx, 417.

Caisson Disease, xxxviii, 429.

Caisson Work, Safety in, xxxvii, 147.

Cake, A New Recipe for, xi, 52.

Calculus, Urethral and Congenital Phymosis, Popiscu, xxxiii, 59.

Calcutta, Sanitation in, xxxvii, 87.

California Climate, iii, 430; California State Board of Health, vi, 181; Fruits, xxxi, 570; Proposition to Exclude Consumptives, xliii, 461.

Calomel as a Diuretic, xxii, 381; In Subcutaneous Injections, Daulos, xliv, 237.

Camman, D. M., History of the Stethoscope, xv, 52; Pneumatic Treatment of Disease, The, xxv, 447.

Calisthenics, Philo, v, 37.

Cameron, Ch. A., Hygiene of Dwellings, ii, 75.

Cameron, Sir C. A., Medical Men and Preventive Medicine, xxxiii, 337.

Cameron, J. C., School Hygiene, xxxiv, 32.

Cameron Kenneth, Bacillus Pyocyaneus, xxxiv, 212.

Camman, D. M., The Proper Food for Children, xviii, 421.

Campbell, A. W., Influence of Pavements on the Public Health, xlii, 131; Road Construction and Control, xlvi, 313.

Campbell, F. R., Influence of Milling on Health, xi, 780.

Campbell, H. F., Yellow Fever, Quarantine of the Future, viii, 72.

Camphorated Naphthol, xxii, 94.

*Continued from previous number.

Camps and Depopulation at Memphis, J. F. Cameron, viii, 97.
Camps, The, Who Is Responsible? xli, 357.
Camps, Hygienic, Hopkins, xlii, 217; Camps of Concentration During the War, xliii, 51.
Cancer, Alleged Increase of, xxii, 190; Epithelial, Cazin, xxxi, 426; Of the Stomach, Tassier, xxxiii, 265; Of the Colon, xxxiv, 170; In Medical Examinations for Life Insurance, Mauriac, xx, 24; Sero-Therapy in, Richet, xxxv, 535; A New Remedy for, xxxvii, 444; Microbe, xlii, 531; Meat and Cancer, xliii, 238; Mortality from, 84; Pathogenesis of, 449; Prize for Investigation of, xlv, 566; Prophylaxis of, Bela, xlvi, 431; Of The Stomach, 243.
Cancerous Cachexia, Treatment of, Lawrence, xlv, 335.
Canada, Sanitary Reports in, xi, 105; Climate, Health Resorts and Spas, Rodick, xl, 48; Quarantine and Public Health, xlvi, 277.
Canaries Subject to Diphtheria, xxi, 565.
Candy Adulterated, xlii, 451.
Cane Disease, xxvii, 259.
Canned Foods, Hawkins, xiii, 255.
Canned Goods, John G. Johnson, xii, 477; xiii, 224; How to Use, xxii, 54; Fraudulent, Mexico, xlvii, 272; Are They Fit to Eat? xli, 359.
Canned Salmon, How It Becomes Poisonous, iii, 328; iv, 45; Poisoned by, xxxvii, 338; Canned Meats and Sausages, German Prohibition of, xlii, 418.
Canning Houses and Their Relation to Public Health, W. S. Forwood, xii, 9.
Cannona, M., Prophylaxis in Yellow-Fever, xxxv, 519.
Canonico, Tancred, Prison Reform, xxix, 138.
Canteen, Army, Medical Men and the, xlvii, 139; Some Results of, from the Standpoint of Discipline and Hygiene, 438; More About, and the Vote of the American Medical Association, 262.
Capdevila, M., Odontalgia in the Army, xxxiii, 60.
Caravels of Columbus, Castellar, xxix, 248.
Carbolic Acid, Elwin Waller, ii, 337; As a Disinfectant, C. B. White, iv, 225; Fumigation With, xli, 554; And the War, xlv, 236; Let Down Easy, vii, 479; Poisoning, Vinegar as an Antidote to, xxxvii, 310.
Carbolized Camphor, xxi, 572.
Carbohydrate Foods, Sugar, xliv, 418, 548.

Carbonic Acid, W. H. Thayer, ii, 402.
Carbonic Acid in Soils, iii, 124.
Carbonic Dioxide, Ready Method of Determining the Amount in the Atmosphere, F. J. B. Cordeiro, xiv, 299.
Carbuncles, Creel's Treatment of, xlvi, 245.
Care of the Voice, Murray, xlv, 566.
Carelessness, Fatal, xliv, 153.
Carnegie's Gift to the City of New York Assured, xlvii, 354.
Carpet Beating, xiii, 536.
Carpets in the Sick Room, Dangers of, xiii, 545.
Car Ventilation, ii, 491; xi, 619; Conn, xxxiv, 124.
Cars, Unclean, xliv, 58; Warming, xi, 15.
Cardiac Affections, Cyanide of Zinc in, xxiii, 86.
Cardiac Dyspnœa, Loomis, xxxi, 49.
Cardiac Murmurs, Functional, Jacobi, xliii, 28.
Cardiac Medicaments, xxii, 571.
Cardiac Tonics, xxii, 286.
Care and Safe Keeping of Lunatics—A Lunacy Bill, ii, 176.
Care of the Eyes, D. F. Lincoln, iii, 193.
Cardio-Œsophageal Gush, Curtin, xliii, 30.
Care for the Minister, viii, 203.
Careless Proof-Reading, xvi, 373.
Carleton, W. M., Air and Light, i, 67.
Carmichael, H., Significance of Sanitary Analysis of Water, xx, 154.
Carpenter, Alfred, Sewage Irrigation, ix, 546; Microbic Life in Sewer Air, xxiii, 3; Sewage Disposal for Water-Closet Towns, 295; Sanitation the Duty of the Church, xxv, 481; Power of Soil and Vegetation to Destroy Disease Germs, xxviii, 41; Utilization of Sewage, 121.
Carpenter, T. B., Garbage Disposal, xl, 395.
Carroll, Alfred, Impurities in Drinking Water, iii, 92; Preventable Sickness, 337, 403; Water Poisoning, 212; Plea of Insanity, v, 258; House Refuse Disposal, xxiv, 257; State Medicine, 513.
Cars, Disinfection of, xlii, 536.
Cars, Passenger, Hygienic, Condition of, xxvii, 129.
Car Sanitation, Conn, xvi, 133; xxvii, 129; xxxii, 501; xxxvii, 245; xli, 509; Danger of Contagion in Street Cars, Borland, xxxvii, 508.
Carson, Juliet, Food in Relation to Health, xxiii, 511.
Car-Stove, The Discarded, xxiv, 241.

Cart Before the Horse, Benj. Lee, xxxiii, 460, 531.
Carthage Aqueduct, xxxv, 93.
Carus, P., Hints on the Treatment of Children, xlii, 118.
Castellar, E., Caravels of Columbus, xxix, 248.
Castile Soap and the Plague, xxxix, 155.
Caswell, Hazard & Co., i, 256.
Cathell, D. W., Why Baltimore Is a Healthful City, xxxv, 41.
Catfish Salmon, xlv, 458.
Cataract of Glass-Makers, xxii, 151.
Catarrh, Chronic, Dust and a Polluted Atmosphere in the Causation of, Bennett, xxviii, 516.
Catarrh Cures, xxi, 340; Cleanliness in the Treatment of, xxx, 350; xl, Pinchon, 45.
Catarrhal Affections, Jarvis, xv, 45; xxxiv, 362.
Catarrhal Inflammation of the Upper Air Tract, General *vs.* Local Treatment of, Robinson, xxvii, 344.
Catheterization of the Bronchial Tubes, xxiv, 186.
Catsup, xxxviii, 320.
Caterpillars in Pill Boxes, xxx, 359.
Cattle Diseases, A. R. Murray, viii, 161.
Cattle Diseases, Inoculation for the Prevention of, xi, 249.
Cattle Plague in European Russia, xxxviii, 56.
Cattle Quarantine, xii, 104.
Cause of Complaint Against Vaccination, Walker, x, 355.
Cause of Epidemics, Smith, xxxiv, 93.
Causes of Insanity, Clauston, iv, 252.
Cathedral of the Incarnation, Garden City, Illustrated, vi, 194.
Cathedral Schools, vi, 381.
Catholic Temperance Convention, xxv, 378.
Causes of Death, xxxvi, 275.
Causes of Disease in Country Houses, W. R. Bartlett, v, 410.
Caution to Water Drinkers, ii, 270.
Caverly, C. S., Relation of Public Schools to Public Health, xli, 289.
Census of 1900, xl, 94.
Centenarians, Five, xlii, 445.
Centenarians, Levasseur, xxii, 131.
Centenary of Jenner's Discovery of Vaccination, xxxvi, 443, 514, 522.
Centennial City, The, xxxviii, 543.
Century Company Prize, xxxviii, 383.
Cellular Œdema, Glasgow, xxxiii, 307.

Celerina, xiv, 384; In Nervous Diseases, xvii, 135.
Cellars, v, 558; A. N. Bell, ix, 310; Atkinson, xxxi, 14; Waterproof, xxxiii, 22.
Cement for Glass, xxvii, 167.
Cementation *vs.* Cremation, xvii, 566.
Cemeteries in Relation to the Potable Water Supply, Grimshaw, xxiv, 148.
Census, The "Median," in, xliv, 361.
Centennial of Chemistry, ii, 224.
Century, How We Have Grown in a, xlvi, 90; The Closing, 19.
Cerebral Arteries, Anomaly of, xxxiii, 160.
Cerebral Hemorrhage, Etiology of, xxvii, 164.
Cerebral Cells, Lesions of, Ballet, xli, 241.
Cerebral Localization, xxii, 470; Cerebral Rheumatism, Soukes, xliii, 159.
Cerebro-Spinal Meningitis, Geo. G. Brewer, i, 320; Treatment of, xxxix, 57; xlii, 466.
Cerebral Surgery, xxix, 250; Diagnosis of, Rendu, xlvi, 60.
Certificates, Disreputable, viii, 572.
Cesspools, iii, 239; Poisoning, viii, 565; x, 235; And Privy Vaults, xi, 602; Schoolhouse, 717; Dangers to Wells, xvi, 226; xxxiv, 518.
"Cervello di Gallina," xxxiii, 530.
Cervical Vertebræ, Ball Extracted from, Boyen, xl, 42.
Chadwick, Edwin, Portrait and Biographical Sketch of, v, 176; Present Position of Sanitary Science, vi, 12; Sanitary Science, 49; Agricultural Production Obtainable from Town Sewage, 224; Powers of Sanitation, 256; Requisite Attributes of a Minister of Health, vii, 59; Sanitary Progress, ix, 504; Sanitation in the United States, x, 232; Sanitary Progress, 358; Army Hygiene, xi, 566; Quarantine, 580; Ventilation, xiv, 13; Sewage Disposal in England, 306; Financial Value of Sanitary Science, xix, 3; National Gains by Sanitation, 487; xxi: Disposal of the Dead, 309; Economy of Human Life, 25; Progress of Sanitation, 385; Sanitary Inspectors, 206; Condition of Sanitary Science, xxii, 385; Present State of Sanitary Knowledge and the Economies of Its Application, xxiii, 289; The Paramount Importance of Legislation for the Application of Sanitary Science, xxiv, 33; Some Preliminary Conditions for the Promotion of Health, xxv, 19.
Chaillé, S. E., Sanitary Results Achieved by General Butler, x, 509; Hon. E. J. Ellis and the National Board of Health, xi,

193; Inundations of Louisiana, 357; School-books on Physiology and Hygiene, 417; Smallpox and Vaccination, 343; Yellow Fever in Havana, 194; Yellow Fever in Vera Cruz and Colon in 1882-83, and the Louisiana State Board of Health, xii, 137; Yellow Fever Imposition, xiv, 338; Physiology and Hygiene in the Schools, xvi, 65; Public Filth Is Public Disgrace, xx, 529; Triumphs and Inducements of Preventive Medicine, xxviii, 505.

Chair of Comfort, iii, 336.

Chairs, Young's Surgical, xix, 384.

Challamel, M., Unsanitary Dwellings and Hotel Bed-Rooms, xiv, 310.

Chamber of Life Insurance Reports, v, 314.

Championnière, L., Hygiene and Dietetics of the Arthritic, xxviii, 238.

Chancellor, C. W., Liernur System of Sewerage, xii, 145; Squalid Dwellings of the Poor, xiii, 527; Sewage Disposal, xiv, 193, 321; Danger of Upturning Soil, 499; Impure Air and Unhealthful Occupations as Predisposing Causes to Consumption, xvi, 125; Simple Methods of Sewage Disposal, Illustrated, xxvii, 289; Cholera, Quarantine and Immigration, xxx, 97; Discoverer of a New Specific, xxiii, 381; Sanitary Brushwood Picked Up in Europe, xxxiv, 193; xxxv, 92, 289, 491; A New Cure for Consumption, 459; Inoculation for Diphtheria and Croup, 11; Sewerage in Foreign Cities, xxxiv, 409; Venice, Climate and Sanitary Condition of, xxxvi, 3; Oysters and Fever, 289; Anti-Typhoid Serum, 385; Movement of Population in France, xxxvii, 161.

Chandeleur Island Quarantine, Wreck of, 462; Dr. Hamilton's Report on, 560.

Chandler, Bessie, In the Park, xii, 127.

Chandler, C. F., Danger in Lead Pipes, iii, 61; Homes for Laboring Classes, 225; Waste and Soil Pipes, 125; Health of New York, iv, 60.

Chamberlain, C. W., Vital Statistics, viii, 349.

Change of Diet, vii, 361.

Channel Islands, A Life in the, xl, 157.

Chapin, H. D., Unsanitary Condition of the Primary Schools of New York, xxviii, 216; Effect of the Summer Heat Upon the Public Health, xlv, 100; New York Milk Supply, xlvii, 481.

Chapin, C. V., Disinfection in American Cities, xxxv, 488; The

Benefit of Alum in Water Filtration, xlv, 431; Health of New York and the Water Supply, xlvi, 113.
Chapin, H. G., Address of Welcome, Medico-Legal Society, xliv, 426.
Chapman, E. N., Infant Diet, iii, 305, 351, 391; Milk With Lime Water, vii, 155.
Characteristics of Disease Caused by Eating Pork, E. Ballard, ix, 548.
Characteristics of Summer Colonies, xli, 284.
Charcoal as a Food, xi, 822.
Charities, State Boards of, Letchworth, xxx, 151.
Charity, Sweet, xxxv, 479.
Charity, Public and Private, the Principles of, xxxviii, 382.
Charity, The Great—Johns Hopkins, i, 84.
Charleston in 1861, xxxii, 572.
Charleston Water Supply, Michael, viii, 241; Health Report, x, 372.
Charles River (Boston) Improvement, xxxiii, 82.
Charteris, M., Ocean Climates, xxvi, 438.
Cheap Window Ventilation, R. C. Kedzie, iii, 39.
Chase, J. C., Household Water Supply, xxxiv, 399.
Check-Rein Cruelty, xi, 155.
Chaucer, xlv, 566.
Cheeseborough, E. B., Position of the Women of the South, xiii, 258.
Cheese Poisoning, xiii, 259; C. Vaughan, xv, 142.
Cheese of Pasteurized Milk in Sweden, xlv, 345.
Cheese, Trappist, xv, 568.
Chesney, J. A., Meat Poisoning, xx, 412.
Chemical Composition of Man, xviii, 417.
Chemistry of the Living Body, xlii, 472.
Chemistry of Dirt, H. C. Bartlett, vii, 450.
CHEMISTRY IN ITS RELATION TO DOMESTIC LIFE, R. C. Kedzie. —A practical paper on essential knowledge for the healthful use of baking powders; the regulation of temperature in cooking; the proper way of preserving fruits and jellies, and of protecting butter from bacteria, xii, 217.
Chemical Composition of Food Materials, Atwater, xxxvi, 193.
Chemistry, Relation of to Public Health, Eggleston, xvi, 486.
Chest, The Measurement and Lung Capacity of, Otis, xxxi, 49.
Chevreul, Michel Eugène, xxii, 536.
Chew, R. S., Leprosy and Vaccination, xxxii, 490.

Chicago's Decreased Death-Rate, xxx, 464; Sanitary Condition, Reilly, 461; Water Supply, Reilly, 463; Drainage Canal Opened, Phillips, xlii, 339; xliv, 165; More About, xlvii, 164; Health Report, vi, 238; River, xii, 259; Sewage Canal, xxxv, 266; Sewers, Changing Grade of, xli, 63; Polluting Sewage, xlvi, 348.

Chicago Newspapers, Cleanliness of, xxxv, 94.

Chicago and Trichina, vii, 323; xxxiv, 213.

Chicago's Wonderful Growth, Andrews, xxxvi, 283.

Chico, J., Typhus Fever, xxxi, 128.

Chiron, Hygienic Treatment of Bright's Disease, xxviii, 144.

Chicken-pox in the Adult, Sheehan, xi, 438.

Chief Results, A. P. H. A. Meeting, E. Harris, v, 502.

Children, iv, 369; Death-Rate of, Brooklyn's Excessive, xliii, 170.

Children's Clothing, iii, 18.

Children and Dirt, xliii, 283.

Children's Eyes, C. R. Agnew, iii, 313.

Children's Hats, viii, 497.

CHILDREN'S HOMES AND ORPHAN ASYLUMS, F. H. Darby, Secretary of the Board of Visitors to the Warren County Charitable and Correctional Institutions, O.—A paper of practical utility on the maintenance and education of child-life in its broadest sense, with a view to the development and cultivation of the best type of adult-life attainable, even in the unfavorable conditions of correctional institutions, xx, 223.

Children's Appetites, xli, 64.

Children, Health of, Richardson, xi, 12; xvii, 66; School Cruelty to, xlvi, 64.

Children, Society for Prevention of Cruelty to, viii, 227; Children's Minds, the Contents of, Charles Roberts, xv, 537; Mortality of, Firks, xvii, 64; Rate of Growth in, Stephenson, xix, 237; Children and the State, Mitchell, *et al.*, xxvii, 536; What Children Should Learn, Small, xxxix, 91; Alcoholism in, xlii, 532; Hints on the Treatment of, Carus, 118; Saving the Children, Abbott, 39; Dependent, State Cost of, Wright, xlv, 190; The Provision for in Public Libraries, Smith, 191; Treatment of, for Chronic Constipation, Doerfler, 257; A Room for, xlvii, 381.

Chignon, The, i, 124.

Childs, O. D., Sewerage *vs.* Surface Drainage and Combustion, xiv, 439.

China, A Letter About, xlv, 478; America's Duty in, 282; Rest,

Unbroken, Sheffield, 381; Can Be Saved? Influence of the Western World on, 382; the Problem of, 563.
Chinese Bath-House, vi, 70.
Chinese, of Us, What They Think, Bousel, xlv, 381; Chinese, Poetry of the, xlvii, 93.
Chimneys and Ventilation, xviii, 528.
Chisholm, E. S., Influence of Weather Changes Upon the Human Body, xix, 235.
Chloralamid, xxv, 473.
Chlorine in Water, Chs. Linart, xxii, 409.
Chloroform Inhalation, Syncope from, xxxi, 266.
Chloroform *vs.* Psalms as an Analgesic, xxxvii, 792.
Chloroform, Researches on, Reynier, xxxviii, 59.
Chlorosis, Nature of, xl, 159.
Chlorides, Platt's, x, 384.
Chocolate and Cocoa, Bell, xxiv, 409.
Chocolate? What Is, xl, 344.
Cholera, Editorial, i, 221; Its Cause and Prevention, Boulden, 362; J. C. Peters, 277, 344, 466.—xi: Circulars on, Corbally, 235, 468, 481; Peters, 433; History of, Wight, 537, 550, 564; in Calcutta, 94, 475; in Egypt, 430, 441, 508, 543, 560, 602; England's Responsibility for, 472, 602; Pasteur's Instructions to the French Commission, 599; Probabilities of Its Occurrence in Europe, 582; in Tehuantepec, 183; Notes About, Peters, 514; Parasites of, Bricon, 632; Preparation for in the United States, 491; Quarantines and Their Relations to Cholera, 589; Scare in Chicago, 662; xii: Bacillus, 541; Epidemic in Egypt, Official Report, 503; xiii: Cholera and Our National Health Authorities, 158; Local, 174; in Europe (Corbally), 400; in Naples, 502; Management of in Europe (Corbally), 498; Practical Advice in View of the Spread of (Nightingale), 415; Progress of, 268; What It Has Cost, 351; xiv: Cholera and Sewage, 460, 552; Prevention of, 83; xv: And Smallpox, 289, 366; Reports on, 407; in Europe, How It Is Spread by England's Port Practices, 166; Origin of Toulon Epidemic in 1884 (Paine), 253; Rags and Cholera, 269; Reminiscences and Lessons of the Past for the Present, Watkins, 241; xvi: 86, 171, 262, 362, 460, 548; A New Remedy for, 473; Etiology and Prophylaxis of, Kinsman, 525; Borax as a Preventive, Cyon, 27; xvii: 94, 170, 283, 368, 474, 562; Cholera Abroad, xviii, 284; in South America, 182; xix: 86, 186, 279, 373, 477, 563; Cholera and Quarantine,

Rauch, 432; Stamping Out, Extemporized Measures for, Bell, 433; xx: 78, 188, 285, 379, 477, 561; Prevention and Limitations of, Beckwith, 433; xxi: 87; and Quarantine, Wise, 212; Bacillus, Different Diagnosis of, 58; Ten Years of, in Calcutta, 143; The Localizing Conditions of in Calcutta, Grant-Bey, 327; A New Remedy for, xxii, 284; Propagated by Impure Water, Smart, 501; xxiii: 83; in Mesopotamia, Corbally, 302, 475, 563; in Khorassan, xxiv, 183; Mesopotamia, 60, 183, 273; in Persia, 60; Danger of to England, xxv, 367.—Official Precautions, 396; xxvii, 268; Report on, Dr. Shakespeare's, 374; Abroad, xxviii, 63, 557; xxix: 68, 164, 268; Corbally, 315; and Its Contention at the Port of New York (1892), Bell, 376; Official Reports, 461; Bacteriology of, and Disinfection, Sternberg, 297; Hygiene of, Gihon, 304; Cholera Injections, Haffkine's Experiments, 516; Measures for Its Prevention and Management in Brooklyn, 289; New York Board of Health Precautions Against, 515; Practical Experiences with, in China and Japan, Bogart, 311; Practical Sanitation *vs.* Detention, Bell, 309; Practical Suggestions in the Management of, Gabalt, 312; Work of the Health Department, Brooklyn, Griffin, 289; xxx: Cholera and Kashmir, Mitra, 424; British Precautions Against, 312; Cremation and Its Importance in Cholera, Neuman, *et al.*, 289; Disinfection Against at Quarantines, Sternberg, 299; Cholera Germ, The, Pettencofer's Personal Experiments with, Friedenwald, 148; How Can Cholera Be Prevented?—"The Attack Upon Brooklyn," Bell, 443; in Hamburg, in 1892, Reiche, 493; Its Clinical Aspects in Paris, 155; Cholera, Quarantine and Immigration, Chancellor, 97; Regulations Against in Passing Suez Canal, 56; xxxi: Asiatic, Abbott, 39, 97; Abroad, 83; Floating Hospital for, 83; At the Port of New York, 272; Is Passing Through Our Gates? McLean, 84; Public Quarantine Against, Shakespeare, 39; Recent Treatment of, Doland, 41; Situation, 461; for Keeping Out the, the Rev. Dr. McConnell, 383; in India, 115; Water Filtration and, Koch, 237, 338, 404, 495; xxxii: in Constantinople, 460; Cholera Doctors in Russia, 283; Nitric Poisoning, Analogous to, 150; Exclusion of, 193; xxxiii: To Keep at Home, Substance of Conference, 79; a Nitrite Poisoning, 95; Cholera Bacillus in Contact with Tobacco, Wernicke, 167; Inoculation, Haffkine, 122; Progress in Europe, 180; Reduction of Death-Rate of, xxxiv, 281; Review of, 462; Credit Side of Cholera Account, 281; xxxv: 87,

156; A Greater Evil Than, 99; Epidemic in Japan, 452; in Honolulu, 351; Invasion, Chancellor, 97; Prevention of, Lee, 41; Prospects, 290; Treatment of, Lee, 261; xxxvi, 535; xxxvii: 272, 339, 556; and Water, Noble, 487; Cholera-Goddess, the Bhowani, Hankin, 410; Microbe, The, xxxviii, 242; in India, xliv, 546; Stopping at Suez, 331; Treatment of, Stouggha, xlvii, 452.

CHOLERA STAMPED OUT, F. H. Hamilton.—An account of the work of Professor Hamilton, Chairman of the Committee of Inspection of the Medical Board of Charity Hospital, on the occurrence of Cholera on Blackwell's Island, in 1866, by which Cholera was effectually arrested in three days by eminently practical measures suitable to similar conditions anywhere, i, 199.

Cholera and Diarrhœa in Children, Treatment of, with Electricity, xxx, 157.

Cholera Conference at Paris, xxxii, 188.

Cholera Infantum, Influence of Climate on, Maxwell, xix, 213; J. M. Duncan, xxxvi, 439; Watson, xliii, 161.

Cholecystotomy for Biliary Obstruction, Fontan, xxxiii, 267.

Cholerine, Nervous Disturbances in, Gilbert and Castaigne, xlvi, 57.

Cholera and Birds, iii, 247.

Christ, Japan's Need of, xlvi, 385.

Cholera, Hog, Partridge, xi, 808; Progress in the Investigation of, Salmon, xvii, 327.

Christian Scientists, xxxiii, 381; Not Insurable, xlvi, 541.

Christian Science, xxxiv, 22; xli, 65; xliii, 284; Folly, xliv, 39; in Detroit, 372; and the Law, xlvii, 57; Absurd Paradox of, 186; M. Fauton's Fortress of, 379; The Right Kind of, 150.

Chronic Bronchitis, Quirke, xli, 449.

Church Sanitary Association, xxxiii, 529.

Choppin, S., Enforcement of Quarantine, viii, 80; Non-Intercourse Quarantine, 108.

Chowder, an Old Recipe for, xi, 761.

Christie, J., Threatened Epidemic of Plague, vii, 211.

Christian Converts in India, xlvii, 287.

Christian or Heathen, xi, 289.

Chrome Yellow and Celestial Blue at Breakfast Repasts, xiii, 19.

Church Unity, xliv, 188.

Cider, xxi, 322.

Cigar, Bacilli Tubercle in, xxxiv, 247.

Cinchona, Cultivation of, vii, 36; in Java, xxi, 384.

Cinchona-Bark Alkaloids, Increasing Consumption of, Cox, xx, 70.
Cinchonism, Some of the Rarer and Graver Forms of, xxiii, 180.
Cinematograph for the Blind, xlvii, 270.
Cinnamon, Medical Properties of, xlv, 66.
Cigar, Analysis of a, vii, 491.
Cigar-Making in Tenement-Houses, xi, 249.
Cigarette Smoking—Poisonous Effects of, xxi, 476; xxii, 91.
Cigarette, War on the, xi, 366.
Circoceles, Surgical Treatment of, Shwartz, xlii, 349.
Civil Malpractice and Medical Jurisprudence, T. P. Corbally, v, 504.
Civil Service Reform, Progress of, xxxviii, 479.
Civilization, The Ancient of America, xxviii, 569.
Civic and Philanthropic Conference, xxxiv, 288.
Cirrhosis, Alcoholic, xxviii, 464; Pigmentary, Letulle, xxxviii, 349.
Cincinnati, O., vii, 474.
Cincinnati Hospital, The, Description of, i, 433.
Cincinnati Schoolrooms, v, 521.
Cistern Water, Geo. E. Waring, v, 334.
Cistern, The, A Substitute for the Country Well, Bashore, xxxviii, 124.
City of Destruction, R. C. Kedzie, viii, 311.
City Scavenging of Boston, E. C. Clark, vii, 542.
City Street Mud, x, 438.
City Waste, The Disposal of, xxxv, 185.
City of Health, Garden City, L. I., v, 211.
Civic Cleanliness, J. S. Coleman, xxiv, 3.
Civic Cleanliness of Boston, E. H. Janes, v, 11.
Civilization, The Oldest, Cope, xxxvii, 246.
Clapp, J. W., Address, A. P. H. A., xix, 386.
Clark, D., Education in Relation to Health, xxi, 193.
Clark, J. S., Gymnasiums in Sweden, xxviii, 246.
Clarke, E., Disposal of Waste and Garbage, xxvii, 505.
Clark, F. C., Trichina Spiralis, iv, 301.
Cleanliness, Prize for, xxii, 547.
Cleanliness, The Virtue of, xi, 552; Personal and Domestic, Noble, xxxvii, 484; Honesty and, xxxix, 496; The Gospel of, in Medicine, xlv, 513.
Class, W. J., Micro-organism of Scarlet Fever, xliii, 123.
Cleveland, G. H., Unsanitary Condition of Lumbermen in Northern Michigan, xiv, 208.

Cleveland Health Report, viii, 566; xi, 412; Water Supply, xxxvi, 46.
Clevenger, S. V., The Coming Man, xxvii, 132.
Clean Up! Plink Plunk, xxx, 464.
Cleaning the Streets in Paris, xxxiii, 474.
Classification of the Causes of Death, xlii, 467.
Classification of Diseases, Sternberg, xxxvi, 262.
Climate, Change of, xxiv, 156.
Climate of Colorado, xvii, 133.
Climate and Consumption, xviii, 157; Donaldson, Leaming, *et al.*, 595.
Climate, Even Divisions of, Based Upon Atmospheric Humidities, Denison, xv, 152.
Climate and Local Conditions, xvi, 211.
Climate, Forests and, Woeikof, xvii, 264.
Climate of the Swiss Alps, Wise, xix, 230.
Climate, The, Preferable for Phthisis, Denison, xix, 227.
Climate as a Therapeutic Agent in Phthisis, Lindsay, xx, 26.
Climate of Siberia, Kennan, xxi, 39.
CLIMATE AND SANITARY QUALITIES OF WESTERN NORTH CAROLINA, Henry O. Marcy.—An elaborate and instructive paper, based upon personal observation and carefully collated weather records and vital statistics; and comparison with other regions with which it is shown to be in favorable contrast. And "Everywhere mountains and streams, cliffs and valleys, gaps and glens add charm to the scene and inspire delight in the lover of the beautiful and sublime; and while health is borne upon the breeze, beauty and grandeur fill the soul," xxii, 199.
Climate, Ocean, Therapy of, Gihon, xxiii, 205; of the Great Salt Lake Basin, Standart, xxv, 520; Preferable Attributes, The, for Consumption, Denison, Yandell, xxv, 529; xxv: Ocean Climate, Charteris, 438; ditto, Fisher, 442; Modification of Tuberculosis by Climate, Johnson, 422; of Ajaccio, Wise, 431; of New Mexico, Worth, 445; of Our Homes, Public Buildings and Railroad Coaches, R. Harvey Reed, 511; of the Greater Piedmont and the Mountainous Regions of the South, Van Bibber, xxvii, 348; xxviii: American, Remondino, 11; Dakota's, 343; Modification of, Wallace, 247; Climate and Mineral Springs of North Carolina, Bell, xxx, 521; xxxi, 47; ditto, of Virginia, 51, 151; of Jamaica, James Cecil Phillipo, 423; xxxii: Climate of the Poles, 176; Climate, Sanitary Topography and Mineral Springs of Maryland and Delaware,

Bell, 517; ditto, West Virginia, 336; New Jersey, 444; xxxiii: Climate—in the Sierra—Lumholtz, "Almost a Perfect," 186; x: Climate, Sanitary, Topography and Mineral Springs of Pennsylvania, Bell, 3; ditto, New York, 210, 309; xxxv, 12, 118; of Canada, Hingston, xxxiv, 138; xxxv: Climate, Choosing a, 184; Climate, Topography and Mineral Springs of Maine, Bell, 234; ditto, New Hampshire, 425; Florida, 528; xxxvi: and Children, Bleim, 333; for Consumptives, Most Suitable American, Stewart, 12; and Sanitary Condition of Venice, Chancellor, 3; of Phœnix and Salt River Region, Woodruff, 410; Climate, Topography and Mineral Springs of Alabama, Bell, 102; ditto, Massachusetts, 505; xxxvii: An English View of the American, 561; of the Orange Free State, 203; Climate, Topography and Mineral Springs of Connecticut, Bell, 104; xxxviii: Climate of Palestine, 320; Climate, Topography and Mineral Springs of Louisiana, Bell, 307; ditto, of Mississippi, 219; xxxix: "Climate and Health," Resolution Requesting the Resumption of, 29; Where No Rain, but Snow Only, Falls, 264; Diseases of the Nervous System, Affected by, Brown, 21; Effects of Changes of Upon Men and Animals, Newton, 26; Height and Distance from the Sea, Affecting, 132; of Hawaii, Nichols, 282; As a Factor in the Repair of Neurasthenia and Melancholia, Taylor, 21; Climate, Topography and Mineral Springs of Michigan, Bell, 113; ditto, of Minnesota, 321; Wisconsin, 205; for Consumptives, Waugh, xl, 408; of Cuba and Manilla, Phillips, xli, 101; of Philippines, Worcester, 475; Climate and Consumption, xlii, 283; in Skin Diseases, Bulkley, xliii, 24; Is Change of a Necessity for Consumptives? Denison, xliv, 502; of Long Island, Denslow, xlvii, 415.

Climate, Changes in Ohio, R. Harvey Reed, xiv, 409.

Climate and Intelligence, C. D. Warner, xiv, 506.

Climatological Nudity, Robinson, xliii, 26.

Climate and Character, English, x, 425.

Climate of Florida, vi, 37; Wilson, xv, 51.

Climate in Town and Country, Frankland, xi, 374.

Climate, Rule for an Even Division of, Tyndale, xv, 49.

Climate, The, of Staked Plains, Western Texas, Reed, xvi, 438; Climate of Iquique, Cooke, xxx, 243.

Climatic Treatment of Disease, H. O. Marcy, xvi, 193.

Climatic Treatment of Phthisis, Williams, xvii, 41.

Climatological Association, The American, xv, 37; xviii, 545; xix, 97; xxv, 401; xxxiv, 368.
Climatological Laboratory, xliii, 368.
Climatological Year, at Los Angeles, xxxiv, 288.
Climatology and Demography, Domain of, as Dependences of Medicine, A. L. Gihon, xix, 224.
Climatology in Connection with Medicine, Importance of, Parker, xix, 226.
Climatology, Sanitary Commended, xxxv, 496; Medical, the Weather Bureau in Relation to, Easterday, xxxviii, 313.
Close, J. A., New Method for Detecting Trichina Spiralis in Meat, xix, 222.
Clothing, Woolen, xvii, 267; Porous, xxxv, 155; and Temperature, xxxix, 435.
Clothes, Our, Lucy M. Hall, M. D., xxiii, 487.
Clothes, Maxwell, xxx, 319.
Clothing in Its Relation to Hygiene, Hibberd, xxiv, 139; Summer, xlvii, 149.
Clubs and Receptions, Unhygienic Customs at, xxxv, 231.
Clute, L., Use of Tobacco, xii, 246.
Coagulation of the Blood, xxxvii, 249.
Coal, The Spontaneous Ignition of, xxxvii, 160; xl, 310.
Coal Mines, The Death Records of, xxxviii, 186.
Coal-Gas Deaths, Reported from, xii, 157; Coal-Tar Derivatives, Uses of, xxix, 458; xxx, 354.
Coan, T. M., American Mineral Waters, xix, 232.
Cobb, J. O., Arid Regions of the United States, The, for Consumptives, xliii, 501.
Cobauna, C., Control of Milk Supply, xiv, 409.
Coca Erythoxylon, De Pietra Santa, xxvii, 38; xxix, 87; Mariani, xxxii, 183; xli, 135.
Coca Wine, and Its Dangers, xxxviii, 352.
Cocaine Injections, xxii, 472.
Cocaine Poisoning, Ammonia in, xxiv, 87.
Cocaine, xxxii, 461; As an Anæsthetic, xxxvii, 62; Sniffing, xlvi, 158.
Cochran, James H., Influence of Better Water Supply on Health, xxii, 519.
Cochran, Jerome, Problems of Yellow Fever, viii, 81; and the Prevention of Epidemics, xxii, 97.
Codeine, xxiv, 380.

Cogshall, B., Is Tubercular Consumption Contagious and Parasitic? xi, 197, 209.
Cod-liver Oil, The Alkaloids of, xxii, 287; in Venezuela, xlvi, 412.
Cœliotomy *vs.* Laparotomy, Harris, xxix, 559.
Coffee, Ground in Rio, xxxi, 183.
Coffee, The True Way to Make, xxiii, 37.
Coffee, French, xxxii, 562.
Coffee Intoxication, Chronic, xxxvi, 340; Medicinal Use of, xxxix, 349; xliv, 197; Incidents in Relation to Plague, xlv, 68; An Olden Time Physician on, xlvii, 55.
Coffin Nails, xxiv, 147.
Cold Baths in Typhoid Fever, xxxiv, 360.
Coleman, J. S., Civic Cleanliness, xxiv, 3.
Colitis in Children, Guinon, xlii, 70.
Collamore, G. A., Duty of the Public to Sanitary Science, xx, 385.
Cold Wave of February, 1899, Hinsdale, xliii, 32.
Cold Waves, Where Come from, xvi, 92.
Cocobolo—A Poisonous Wood? xi, 777.
Coles, Walter, Burns and Scalds, iii, 79.
Collapsed at Proposal, xl, 346.
College for Medical Practitioners, x, 384.
College Sports, Nathan Allen, iii, 241.
College Athletics, Davis, xi, 264.
Colleges, Relation of Literary to Medical, E. T. Nelson, xiv, 433.
College, What the American Has Done, xxxvii, 562.
Cold, For a, xxiii, 28; How to Treat, xxviii, 62.
Colds, Acute, and How to Treat Them, xxiv, 382.
Colored Rays of Light in the Treatment of Tuberculosis, Bleyer, xliv, 506.
Colorado, The Climate of, Acclimation of the Consumptive to, Dodge, 215.
Colorado for Consumptives, F. L. M., ii, 378; State Board of Health, vii, 322; Nervous and Mental Diseases in Colorado, Eskridge, xxvi, 163; Relations of Certain Meteorological Conditions to Diseases of the Lungs and Air Passages, H. B. Baker, 306; Original Sites for a Closed Sanitarium in, Kellogg, 27; Residence Treatment of Consumption, G. Solly, 132.
Collyria of the Iodide of Potash, xlii, 351.
Columbian Exposition, Bureau of Hygiene and Sanitation, xxx, 93, 96, 383.
Columbus Outdone, xxxii, 184.

THE SANITARIAN.

APRIL, 1902.

NUMBER 389.

PREVENTABLE DISEASES IN THE STATE OF NEW YORK.*

By HENRY REED HOPKINS, Chairman, and Colleagues.

The enormous death-rate from typhoid fever in the State attracts the attention of all well-informed persons to the continued impurity of the water supply of the entire State, to the lack of intelligence and appreciation of this prime necessity of health, to the corresponding want of efficiency as hygienists of our medical profession.

That there is more than four times the morbidity and mortality from typhoid fever, in the chief cities of this State, than in the large cities of Europe, is a most humiliating demonstration.

Your committee again directs attention to the fact that in the main the responsibility for this disgraceful state of impure water supply, and the consequent loss of time, money, and life from typhoid fever, rests upon the medical profession as the same is represented in the Medical Society of the State of New York, and calls upon the several local societies to make this question one of especial study to the end that those in authority may speedily be induced to apply the proper remedy.

The real sanatory problem of the day—than which there has been none more important in history, the prevention and cure of consumption by State control—has made slow but positive progress. The tactics of the enemies of the cause seem to have been to confuse, to distract, to delay, to obstruct by impossible suggestions of help. A State sanatorium for the treatment of cases of incipient consumption was demanded by abundant and conclusive experience, advised by this society, and this demand was supported by overwhelming public sentiment. The selection of a site furnished the occasion for meddlesome and mischievous suggestions, an artificial activity of some self-styled friends of

*Report of the Committee on Hygiene of the Medical Society of the State of New York. Read at the ninety-sixth annual meeting at Albany, January 28, 1902.

the cause, and required much patience, wisdom and loyalty on the part of the right-minded members of the board of trustees, in order that a wrong choice might not ruin the enterprise at its beginning. The delay thus caused has been most exasperating and trying, but has given opportunity of testing how sane the movement is, how imperative is the demand on the part of the people, and of the futility of attempting to kill that which is demanded in the interests of the public health.

Your committee with all emphasis renews and reaffirms what it has heretofore declared as to the importance of this matter, and advises that this society renew its pledge of confidence and support to the cause of State prevention and cure of consumption in sanatoria as the State's highest duty and most glorious opportunity.

Your committee has given consideration to the recent increase of knowledge regarding the relation of some of the smaller insects to the spread of disease. The rôle of certain varieties of mosquitoes to the spread of malaria and yellow fever opens a vista for the prevention of these diseases, of immense attractiveness and potentiality. It would seem that the near future is to demonstrate that some of the fairest portions of the earth, that have hitherto been thought unsuitable for Anglo-Saxon inhabitation, by reason of malarial endemicity, are to be reclaimed, and that modern sanitary science is not only to drive yellow fever from off the earth as it has already been driven from Cuba and Porto Rico, but that by a knowledge of the ague-bearing mosquito, the sphere for Anglo-Saxon residence and activity is to be enormously expanded.

The continuous and unusual presence of smallpox in various parts of the State moves your committee to urge upon the society the importance of a more intelligent supervision of the results of vaccination, the importance of greater care and watchfulness in determining that primary vaccinations are successful, in demanding legislation requiring a general revaccination of all persons at puberty and after puberty, at least once in ten years, and that no child be permitted to attend any public or parochial school unless the same can show the marks of thorough vaccination.

Here your committee is minded to refer to, and to deplore and protest the policy of the present administration of the State in reference to the public health and the State Board of Health. Your committee has the conviction that it is not good statesmanship to neglect or to minimize the ordinary means found in operation in all civilized communities for the protection of the

public health; and that in the whole history of extravagant and wasteful expenditure, there is nothing more extravagant and wasteful than a penurious economy in appropriations for the prevention of the preventable diseases. That in the department of public health should ever be found men of the highest ideals and the noblest attainments, for the reason that the problems they encounter are the most intricate, trying and important that ever engaged the mind of man, and that it is of prime importance that the men of this department should be leaders of thought and always in full command of the confidence of the people.

How shallow is the intelligence, how thin the veneer of statesmanship, what a bar to real economy and progress is the policy which fixes the annual salary of the State Commissioner of Health at $3,500 when the Commissioner of Fisheries and Game gets $5,000; the State architect, $7,500, and the three railroad commissioners, $8,000 each? And how humiliating is the easy criticism of the politician, and sometimes lawmaker, who asks, "What does the State Board of Health do," and answers himself, "Oh, they keep a record of the dead ones, and get well paid for their work!"

The practical working of the unfortunate schisms in medicine is seen in destroying the public confidence even in medical measures for the protection of the people's lives, by the prevention of the preventable diseases, and shows its real colors in the indifference of our legislators to the appeals or advice of this society upon matters of public health, in the penurious appropriation for the maintenance of our State Board of Health and in the conspicuously inadequate salary of the State Commissioner of Health.

The members of the legal profession seem to fight each other vehemently in court, but are not known to quarrel among themselves when urging that the salary of the judge be made commensurate with the dignity of his office, and it is so.

The people have ever reserved to themselves the right to say who shall practice the healing art, and what qualifications, if any, such persons shall have. The question of what preliminary education such persons shall have, what shall be considered to constitute the science of preventive medicine, a knowledge of which all persons who practice any part of the healing art shall have, are ones upon which the people will probably listen to, and possibly be advised by this society. The broader questions of how the healing art shall be practiced, what the size of a dose of a particular remedy for a particular disease shall be, whether remedies

shall be gathered from Nature's inorganic kingdom, or from her organic storehouse, or from both sources at will, whether men shall use water within and without, massage, electricity, hypnotism, or mental suggestion, with or without the added enforcement of religious belief, are those concerning which the people have ever shown themselves unwilling to be advised and intolerant of dictation.

Not understanding or not comprehending the spirit of the people in this important direction has in times past placed this society in a false light upon questions of great popular interest, if not of public importance.

Read in the light of history it seems clear that it would have been better for the medical profession, better for the great interests of the public health, which the medical profession must ever guard, if this society could have refrained from seeming to want to dictate to the people how they should be doctored, could have contented itself with advising, and could have withheld that advice until it was requested.

Your committee is compelled to force these observations upon your attention by the logic of recent events. The people of the State are experimenting with osteopathy and eddyism, just as a few years ago they were experimenting with homeopathy and eclecticism. There is great danger now, as then, that this society, wishing to advise from abundant knowledge, will be found to seem to dictate to the people how the people shall conduct their own affairs; that the ever to be lamented blunder of 1857 and 1865 may be repeated in this the beginning of the new century. It would seem that this society should have learned by sad experience that the right is not always expedient, that it is wiser to be content to advise, and, perchance, to guide in medical questions, to be content to memorialize and to protest with becoming dignity, remembering that the weightier matters, higher medical education, increased medical efficiency and better protection to the public health, may only be adequately promoted and prospered by a united medical profession inspiring, guiding and leading a sympathetic and appreciative people.

H. R. HOPKINS, *Chairman.*
GEO. B. FOWLER,
J. H. PRYOR,
J. M. MOSHER,
M. A. VEEDER,
J. L. HEFFRON.

EXTREME MEASURES FOR CONSUMPTIVES.

From the "Boston Globe."

When the late Chief Justice Doe of the New Hampshire Supreme Court removed the windows of his house in winter to be sure of fresh air, a sympathetic shiver ran through the neighbors. Again, when it was first published to the world that invalids, suffering from tuberculosis, often awoke in the morning at the State institution at Rutland, Mass., to find their beds covered with the snow which had drifted in under the lifted sashes, many readers of the descriptive article froze in imagination.

Recently a sanatorium has been established among the hills of Plymouth County, Mass., for the cure of consumption and other affections of the lungs, which goes a step farther. There numerous patients have passed their days and nights in little dwellings which have only three side walls for shelter, the fourth wall in each instance having been left out of the plans of the architect purposely.

It is said to be the intention of the management to build a fence around two acres of land into which individuals will be turned naked. The claim is that the results will be as direct and fully as convincing as those received from the present outdoor treatment.

The sanatorium occupies one of the old colonial estates of Plymouth County, with spacious grounds, about a dozen acres in extent, sloping gradually toward the south.

Near the ancient mansion are erected small buildings which may well be termed shacks. They are simply lean-to's, with the sides open, facing the south. They are of one and two stories in height, and constitute the resting places for the patients day and night. In summer or winter, in rain or sunshine, persons inhabit these dwellings and seem to thrive on the heroic treatment.

The shacks are about twelve feet square, and are fitted up after the manner of a common room. An iron bedstead, a bureau, stand, wardrobe, papers and books are to be found in each apartment, and the patient is surrounded by the ordinary arrangements of a hospital ward, but all out of doors.

A screen is suspended in front of each building, but, unless it rains, it is not pulled down. It is not intended to keep out the air. Every method possible to keep the air moving is utilized. There are windows in the wall sides of the little rooms, blind work over them, so that the air can be constantly changed if it

should rain, and at the rear are carefully and ingeniously constructed lattices.

Another feature of these unique and novel dwellings is the

COMPLETE ISOLATION OF THE PATIENTS.

One man in each twelve-foot room is the rule. The bed clothes are frequently moist with dew, but no bad results are felt. It simply means the drying of the bed clothes, and every quilt is placed in the rays of the sun as quickly as possible after the patient arises.

The old colonial mansion is where many of the patients are kept, and this is fitted up not unlike the leading sanatoria in this country and Germany. Every room has a southern exposure, but it differs from many institutions of this character, inasmuch as there is every facility for an open-air treatment and still be under a roof. Windows are thrown wide open and screened, little openings are cut in the roof to permit the free distribution of air, and as a matter of course the place is scrupulously clean, with not a carpet in the whole house.

The sanitary arrangements are as near perfection as possible, and when the old home was converted into a sanatorium the first change that the head physician ordered was the removal of the small windows in the cellar, and the replacing by larger ones. Air circulates as freely in the cellar as in the most open room in the house.

In addition to the apartments in the mansion, there are little wards constructed near at hand, and in close touch with the sanatorium for female patients. The same rules govern their daily life as in the open-air wards. Their treatment is nearly the same, and the physical culture lessons are given under the care of an expert. Hammocks are hung about the grounds, and, wrapped in warm clothing, some even with mittens and hats, the patients swing as if it were a summer day.

This open-air treatment may seem to many to be carried to excess, but when it is stated that the patients thrive on it, when they seem to enjoy it, and enter into the pleasures of life with a zest unknown for years, it certainly seems to possess a virtue hitherto not fully understood. They say that they rise from their beds feeling excellent, their appetite improved, and from the first night until they leave the sanatorium they do not have that tired feeling in the early morning hours.

The time that the patient is allowed to arise differs according to his or her condition. This is governed by the medical staff,

which follows every case with the greatest of care, and notes every change that occurs.

Stepping from the bathroom to the dressing-room, the patient is carefully attired and is soon out of doors. There is no dreading of drafts, and if it is chilly the patient does not mind it.

The blue-glass craze of a few years ago will be recalled. It served its purpose, as it drew the attention of the people to the beneficial effects of the sun's rays. Solar heat is recognized as a great remedial agent, and at this institution it plays a prominent part. A large, open space has been arranged at the top of the sanatorium leading from the upper tier of rooms, and is surrounded with a lattice work and strips of canvas. Cot beds are placed and patients are required to lie there for a certain length of time each day, with no clothing. As they turn on the cot and receive the rays direct from the sun every part of the body is reached, and from the sun bath it is but a step to the water bathroom.

The result of the sun bath is said to be felt directly by the patient. The cuticle of the whole body is as tanned and browned as the neck and arms of a summer yachtsman in Buzzard's Bay after a month's cruise. It is surprising what cold air the patient can stand after a treatment of this nature, and he seems immune from the effects of drafts or a chilly atmosphere.

The food generally conforms to the ordinary rules of dietetics. It is of a mixed character, containing representatives of the different classes of food stuff. It is digestible, appetizing and varied. Then, it is to a certain extent suited to the national individual taste and customs of the patient, and is directed by the results of experience, both of the patient and of the physician. A large amount of nitrogenous food is used, milk, butter, cream and eggs being lavishly supplied.

"We give them all they want," remarked the leading physician to the writer. "It is one of the rules that patients shall have everything within reason. It is part of the treatment. We find that the appetite calls for certain things, and we supply them as we do in health, if the food seems to agree with the patient. We have a large vegetable garden that we use freely throughout the entire year.

"Medicine? There is very little used in our treatment, and the reason is readily understood. If we take a patient here and he or she receives benefit from the treatment it is apt to be attributed to the medicine rather than to the hygienic and open-air methods which we use, and they are not apt to follow those principles laid down here when they return to their homes."

The hours for meals at this institution are as follows: Breakfast at 7.30 in the summer and 8 in the winter; dinner at 12.45 and supper at 6. In addition there are three lunches served, one at 10.30 A. M. and another at 4 P. M., while the last comes just before retiring. Milk, eggs or some specially prepared food is used at the lunch hours.

RULES ENFORCED.

There are rules adopted by the management of this institution which are rigidly enforced, and infractions are not tolerated. Between the hours of 1.30 and 4 in the afternoon a special quiet is required in the house. The patients are required to be ready for physical culture lessons and their other regular duties. The patients are required to be in their rooms at 8.15, and at 9 the lights are out. Another rule is that the patients are not allowed to visit each other in their bedrooms or enter the executive or private rooms. Patients are requested to keep their rooms in order and have few articles and ornaments to avoid the collection of dust. Permission is necessary to go farther than the village or to take an extended walk.

The *rule against expectoration* is more rigidly enforced than on the elevated in Boston. Sputa cups are supplied, and every possible safeguard is used. Under no circumstances are handkerchiefs or other articles of clothing permitted to receive sputa, and spitting upon the grounds of the sanatorium is absolutely forbidden.

In the past year many cases have been received at the sanatorium, and the treatment, it is asserted, has been beneficial in every instance. Of course damaged lung tissue can never be replaced, but the sanatorium is not designed for patients who are past cure. It is for the incipient cases of tuberculosis and lung trouble, which can be treated in such a manner as to put new vigor in the patient and send him home with a renewed interest in life.

"It is now nearly two years," said the physician in charge, "since I was called to see a young man whose family history was most remarkable. His father, brother and grandfather and two aunts died with chronic phthisis. He was suffering from a cough and dyspnœa and had a temperature of 100.5 degrees. The ordinary remedies were applied, and he continued to lose flesh. I took him to two specialists in Boston, and they said that my patient undoubtedly had tuberculosis.

"At that time I read a brochure by a Boston physician and he spoke of the benefits derived when he compelled his patients to remain out late in the evening in reclining chairs. I then urged my patient to sleep out of doors. For nine months he slept in the open air, with the exception of the stormy nights, and it was surprising to see the change. At the end of a month his temperature was normal. In four months he had gained twenty-two pounds, and the only medicine I gave was a little tincture of nux vomica. He has been perfectly well since and tips the scales at 147. The man has worked in a shoe factory nine hours per day since his treatment commenced.

"I might cite case after case similar to the one mentioned, cases where the open-air treatment has returned direct results. As a matter of experiment I have slept in a roof garden, and until one has tried it he cannot know how much more refreshed one feels after a night's rest out of doors.

"The cabalistic words 'dampness' and 'drafts' are of the past, and should not be considered for a moment. Many times patients have found their bed clothing and night clothes damp with the dew, and a summer rain has disturbed their restful slumbers, but with no harm, beyond the necessity of drying their clothes before another bedtime. I am of the opinion that if people could be taught to fear impure air and overheated rooms as they now dread a slight increase of moisture or a little air stirring in the room, tuberculosis would become as infrequent as smallpox.

W. C. GURNEY.

DESTRUCTION OF FUNGOID GROWTHS IN GERMANY.—Consul-General Hughes, of Coburg, reports, December 13, 1901, as follows:

"Messrs. Rosenzweig & Baumann, of Cassel, manufacture at their color works a simple and effective agent for the destruction of fungoid growths, which they have put on the market under the name of 'mikrosol.' Professor Bigula, of the same city, has made a thorough examination into the action and effect of mikrosol, and recommends it as very efficient, both for the destruction and prevention of fungoid growths. Mikrosol is easily soluble in water. A 2 per cent. solution applied to wood by means of a brush will bring about the desired effect almost immediately. Mikrosol ought to be very useful on shipboard, especially in tropical and semi-tropical countries."

THE LEGAL STRUGGLE WITH TUBERCULOSIS.*

By CLARK BELL, Esq., LL. D., of New York City.

Since the organization of the Medico-Legal Society, indeed since the beginning of the last century, no such momentous question in forensic medicine has ever been presented to the general judgment and verdict of the professors of law and of medicine as the one with which now all the civilized nations of the world are confronted, and with which all are now grappling in the question of legislation for its prevention and spread. How far can the ravages of consumption be arrested by legislation? Can any legal enactments or regulations sanctioned by laws arrest its devastating march upon, and its terrible destruction of, human life?

It is the most momentous question of the hour, and last year our best effort was in inaugurating, organizing and rallying all the forces at our command upon this supreme question of medical jurisprudence.

THE AMERICAN CONGRESS OF TUBERCULOSIS.

While there had been an attempt to enlist the medical profession in the issue, in 1900, the labors of this society were initial and tentative, and only originated as a question of forensic medicine, which did not so deeply interest medical men outside the Medico-Legal Society as it should have done; but the session of the American Congress of 1901, at the Hotel Majestic, on May 15 and 16, 1901, was indeed splendidly successful in the organization of, and the real inauguration of, a superb movement, international in purpose, and based on the co-operation of not only the American States of our American Union, but on every State, province and country in the United States of America, in Mexico, and in the South and Central American Republics, and in the Dominion of Canada. Both continents of the Western Hemisphere and all countries in American waters were intended to be embraced in its labors. Governors of a large number of States of the American Union named delegates, and Mexico and the Central

*Abstract of Inaugural Address as President of the Medico-Legal Society, pronounced January 15, 1902.

and South American States were to some extent represented, and the Dominion of Canada. The Bulletin of this work now nearly completed, containing over 300 pages, which are a part only of its labor, will illustrate the great value and importance of its work and its value to the literature of the subject. The most important of all, however, was the organization of a strong body with a board of officers, selected from various parts of the States, provinces and countries of both continents upon the Western Hemisphere, the original officers of which have been announced to the world.

The plan proposed was to have three additional vice-presidents chosen in each State, province and country, who would form the nucleus of work in each location, and this has progressed until these officials have been chosen and selected for at least half the American States, and in some of the Canadian provinces, Mexico, some of the Central and South American Republics, and this branch of the work of organization is rapidly approaching completion.

The officials of that Congress have also appointed honorary vice-presidents, and are now making such appointments for each country, State and province, and these officials have been chosen and accepted for the Dominion of Canada, and in all its provinces, from men of the very highest character and social position in the Dominion. This work is also progressing in the various States of the American Union and in Mexico and in all the Central and South American Republics, and will soon be complete and ready for announcement. The delegates already appointed by the Governors of the States of the American Union are over 160 in number, exclusive of a considerable list of delegates from medical societies, legal academies of medicine and other organizations.

The officers have announced the next general session of the Congress for the 14th, 15th and 16th of May, 1902, to be held in joint session with the Medico-Legal Society at the Hotel Majestic in the city of New York, with a public banquet on the evening of the 15th of May, in which all medical and legal societies are invited to co-operate and to send delegates, and medical and legal men are invited to contribute papers to be read. A programme will be prepared and announced later to embrace the issues of the hour, the discussion of which will enlist the ablest thinkers and talent in the profession of law and medicine, in both countries of the entire Western Hemisphere, and their dependencies.

A MUSEUM.

There will be a museum and a suitable room has been secured at the Hotel Majestic for this purpose, convenient to the assembly room, and the preparation for the museum will be in the hands of a carefully selected committee, of which Dr. Edwin H. Lewis, of Burlington, Vermont, will be the chairman.

Prof. Dr. Moritz Benedikt, of Vienna, Austria, has announced his intention of contributing an open letter to this Congress, as he did to the London Congress of 1901.

RECEPTION AND ENTERTAINMENT.

These outlines seem to show the enormous labor that will devolve upon the officers of that Congress, and especially upon this society, who will have to take the laboring oar in the work of the committee on reception and entertainment of our foreign visitors.

MEDICAL JURISPRUDENCE—QUESTIONS UNDER INVESTIGATION.

The subjects under investigation as announced last year, are still in charge of committees, and additional questions have been accepted by our executive officers and will be assigned to standing committees, the details of which will appear in our transactions, of which I shall allude to a few only at this time.

It is more than probable that the enormous labors of the approaching Congress, to be held in May, will divert and postpone to some extent the labors of the Select Committee on the subjects already referred until later in the year, and perhaps until next autumn.

Death has cut down an unusually heavy number of our best names in the year that has passed.

Prof. Maschka, of Bohemia, I am informed by Prof. Dr. Morris Benedikt, is no more. The details and sketch of his career will appear, I trust, later on.

Dr. Irwin G. Ross, of Washington, D. C., one of our ablest neurologists and alienists, has passed away, and appropriate action has been taken to his memory, as also Simon Sterne, of the New York bar; Judge David McAdam, of the Supreme Court of New York, who was one of the charter members of the society at its foundation; ex-Medical Director Dr. Albert H. Gihon, who has for many years been identified with this society, and on whose life and career Dr. I. N. Love pronounced a eulogy at the January meeting.

I have the honor to recommend the election at this meeting, as I assume the chair for the thirteenth time, of the following gentlemen as honorary members of this society. Members will recall that this is an honor which has been very rarely bestowed. We are under our constitution limited to name only twenty honorary members. I submit as an appendix to this address, a list of the honorary members of this body, marking those with an asterisk who are deceased. Those now living are in the order of their appointment or selection:

Dr. Henry Maudsly, of London.

Prof. Dr. Krafft Ebing, of Austria.

Hon. Noah Davis, of New York.

Prof. Dr. Rudolph Virchow, of Berlin.

Prof. Dr. Stanford E. Chaillé, of Louisiana.

Hon. Luther R. Marsh, of Middletown, N. Y.

There are thirteen vacancies. I recommend that the following names be elected as honorary members of this body:

Prof. Dr. Moritz Benedikt, of Vienna, one of the ablest of our colleagues in Vienna.

Prof. Dr. N. S. Davis, of Chicago, Ill., one of the most honored and able names among American physicians.

Judge Robert Earl, of Herkimer, N. Y., ex-Chief Justice New York Court of Appeals.

Prof. Dr. R. Ogden Doremus, ex-President of this society, and the Nestor of American alienists.

Prof. Dr. —— Mierzejewski, of Russia, President of the Society of Psychiatry, of St. Petersburg, Russia.

Dr. A. Motet, Secretary Medico-Legal Society of France, and chairman of Section of Legal Medicine, Paris, Medical International Congress of 1900, of Paris, France.

Prof. Dr. Cæsar Lombroso, of Italy, one of the most eminent criminologists of our time, for many years a corresponding member of the society.

Prof. Dr. Charles H. Hughes, Editor of the "Alienist and Neurologist," of St. Louis, Mo., and one of the foremost of American alienists.

Dr. A. N. Bell, the veteran editor of THE SANITARIAN, Honorary President of the American Congress of Tuberculosis.

Hon. Abraham R. Lawrence, who has sat upon the bench of the Supreme Court of the State of New York 28 years, and retired by the age limit on December 31, 1901.

Nicholas Senn, M. D., of Chicago, Surgeon-General of the State of Illinois.

Prof. Dr. Axel Key, of Stockholm, Sweden, for years a corresponding member of this body, and one of the most eminent medical men in Sweden.

Judge L. A. Emery, a member of the Supreme Court of the State of Maine, who has for years been one of our active members and a devoted student of medical jurisprudence.

I recommend that the constitution of the society be amended so that the word "twenty" be changed to "fifty" as the limit to our honorary membership.

The limitation in number was proper at the time of its adoption, but now that there are over fifteen hundred names on our various rolls of members; that the society has become national and international in character and labor; with many names of eminence in the professions of law, medicine, chemistry and science who are entitled to this high honor, and whom I desire to recommend to you for this distinction, but am restrained by the constitution, I ask for its enlargement, but I do not recommend lowering the high standard of excellence we have ever held for the position, and should prefer rather to elevate that than to lessen it in any degree.

During the past year we have lost by death 4; active members by resignation, 5; members suspended for non-payment of dues, 2; members, 56. New active members have been elected, so that there was on January 1, 1902, 545 names on the roll of active members. There are but seven names on the roll of honorary members.

On the roll of corresponding members 4 names have been vacated by death, and 20 have been elected. So that we have active members on January 1, 1902, 546 names; honorary members, 7; corresponding members, 568. Total, 1,120.

Exclusive of members of Psychological Section.

Section Medico-Legal Surgery, —.

Names on suspended list for non-payment of dues, about 360; making our total membership nearly 1,600 names.

FINALLY.

The work devolving upon us in 1902 demands our greatest enthusiasm, our highest energy and more personal sacrifice of time and unremunerative labor. I ask of the Fellows of the Society that splendid support that has so greatly encouraged me in the past, for the year before us.

COMPULSORY EDUCATION AND HEALTH.*

By A. B. POLAND, Superintendent of Public Schools of Newark, N. J.

Recent school legislation in the State of New Jersey has aroused the school authorities of a good many districts to a more vigorous, and hence more effective, enforcement of the Compulsory Education Law. To give to every child a school training, which is its natural birthright, to the end that the State may possess a more intelligent, useful and virtuous citizenship—this should always be the prime motive for making and enforcing school attendance laws. Sometimes, however, the immediate benefit, though a small one, is a more efficient cause for right action than the remote benefit, though many times greater.

In Newark, the school authorities have been able to raise the average attendance over four per cent. for the months of September and October of this year, as compared with the attendance for the corresponding months of last year. These results were obtained simply by requesting principals and teachers to look more sharply into the causes for absence of pupils. Roughly estimated, I should say that at least five in a hundred children between the ages of seven and twelve years, the period of compulsory school age, do not attend schools of any kind, public or private.

This percentage, if reckoned for the city of Newark, would give not less than 2,500 children between the ages of seven and twelve, who do not attend school. Of this number there will be some hundreds who, through physical or mental disability, ought not to be in school or should be taught at home or privately. A still larger number consists of those whose parents are indifferent to their education and who allow them to roam the streets or engage in labor of some kind, often to assist in household duties, but sometimes to work as wage-earners in factories and stores, and at various occupations in which child-labor can be employed.

Illiterates a Menace to Society.

Now it scarcely need be stated that this large class of uneducated children constitute a menace to society. From this number

*Abstract of paper read at the meeting of the New Jersey Sanitary Association, at Lakewood, N. J., December 7, 1901.

comes by far the largest proportion of our shiftless, thriftless and profligate citizens, and from this class is largely recruited our law-breakers and criminals of every degree. The State, therefore, has done wisely to enact a most stringent Compulsory Education Law.

After reading article 15, section 154, relating to the requirement devolving upon the parent, guardian or other person having control of a child to send such child to school, Professor Poland continued:

"It will be observed that the duty of enforcing this law is clearly imposed upon boards of education throughout the State. That it has not been enforced in the past has been due to several causes: First, the indisposition of boards to compel any citizen to act against his will; second, difficulty in securing convictions by justices when cases of violation of law were actually brought, and, third, failure to understand and appreciate the evil of allowing an unschooled population to grow up in their midst."

The speaker then explained as to the steps recently taken in Newark to obtain the attendance of every child of compulsory school age at some school, public or private, unless excused for statutory reasons. He added that the aim is something more than to look after truants, and that under an effective system such as is contemplated truancy will scarcely exist. The aim, he further explained, is to put school, home and Board of Education into such a close and immediate relationship that each can help the others in securing prompt and regular attendance of all children.

Medical Inspection Needed.

"Compulsory education without proper medical inspection would be fraught with great danger," Professor Poland declared. "No inconsiderable number of habitual non-school attendants come from homes that are filthy, if not infected with contagious disease. It is not desirable, even for the purpose of educating these children, to poison our school-rooms and infect our healthy children. What, then, is to be done? On the one hand we have isolation and growing up in ignorance; on the other, education at the expense of infecting our otherwise healthy children. It is here that the usefulness of medical inspection comes in to aid the schools.

"Clearly no child should be admitted to school who is not clean in person and free from the germs of contagious or infectious disease. If such a child is offered for admission by parent or at-

tendance officer he should be sent home; but to send home such a child is to keep him out of school, often what the parent desires. The authority of the School Board, or of the Health Board, must extend to the home to compel the parent to see that the child has proper medical or other treatment, and to return him to school.

"If all children are to be put in school, there should be most vigorous and efficient medical inspection in the schools; and, further, this medical inspection should be carried by the authorities into the homes from which pupils come.

"There are other causes or conditions arising from an enforcement of the compulsory education law that are not conducive to public health. First and foremost comes the evil of overcrowding our school-rooms. Our dislike to pay taxes, even for educational purposes, makes it difficult to secure sufficient school accommodations, especially in growing communities like the city of Newark, where the actual increase in school attendance is nearly 2,500 per annum. As a result we find great, almost wicked, overcrowding in some of the school districts of our State.

Premium on Overcrowding.

"The immediate remedy is that of part-time classes. But the rules announced heretofore by the State authorities for distributing school moneys discriminate against part-time classes by not allowing them a full day's quota of the appropriation. Hence, school boards quite generally will be disposed to overcrowd classrooms in order to count full days' attendance. To enforce the Compulsory Education Act will result in still greater overcrowding, to the detriment of health.

"Perhaps it would be justifiable if the discretion were left with the State Superintendent to allow full-time attendance to part-time classes where boards of education are disposed to take prompt steps looking to the erection of new buildings, and thereby to prevent overcrowding.

"In the city of Newark an effort is made to keep the size of classes down to forty or forty-five pupils per teacher. To do this, part-time classes will be for a time inevitable, and the city will suffer a loss of appropriation. Under such circumstances it would be entirely safe within the domain of public policy to allow for part-time classes the full appropriation. I am not, however, pleading for this. The city of Newark can better afford the loss of some of its appropriation than many other school districts of less wealth. The intent of the law is, and should be, to promote by just and

equitable means the education, under healthful conditions, of every child in the State.

"Making mandatory the rule that there should be fifteen feet of floor space and 180 feet of air space for every pupil, in old buildings as well as new, would help matters greatly.

"Under the present rules of the State Department pupils excluded from school by the medical inspectors are reckoned as absent, and no appropriation is derived therefrom. I see no good reason why children excluded from school through fear of infecting others should not be classed with children actually quarantined, though suffering themselves from no disease, through fear of spreading contagion. It is clear, therefore, that where pecuniary advantage is sought, medical inspectors will be correspondingly lax.

Uniform Vaccination Laws.

"Again, the laws relating to vaccination of pupils should be uniform throughout the State. In the city of Newark, the vaccination of school children is mandatory under the rules of the local Board of Education, and the rule is rigidly enforced. The delay of parents in having it done and the illness of the pupils after vaccination cause the loss of hundreds of days' attendance. Now in case other school districts of the same county are lax in the enforcement of compulsory vaccination, or ignore it altogether, Newark is the sufferer by reason of a relatively decreased appropriation. This is one of the things that needs to be remedied by additional legislation where the interests of public health run counter to those of public policy or public profit.

"In conclusion I beg to call your attention to a fact well known to the school authorities of most school districts, that many children are regularly employed, contrary to the provisions of the Child Labor Law. This law is evaded because employers are not required to obtain a properly authenticated certificate of school attendance. In order to secure employment the parents of children themselves frequently mis-state either age or amount of school attendance. It will be noted that the law requires children to attend a day school or an evening school for not less than four months during the twelve months next preceding such employment. Attendance upon a day or evening school for a few days only is often made the pretext for evading the law.

Check on Labor Law Violations.

"If a person, company or corporation were compelled to obtain

from a Board of Education certificates as to age and school attendance of a child seeking employment, violations of the Child Labor Law would be relatively few. These certificates should be filed by the employer, subject to the inspection of the factory inspector or other duly authorized person to prevent the illegal employment of children. For the protection of the health of children so employed the factory inspector, under the existing law, is solely responsible, and not the Board of Education.

"The suggestion is also made that the number of deputy factory inspectors should be large enough to make a frequent as well as a thorough inspection of all factories, to see that no children are engaged in any employment inimical to health, as well as contrary to law. Some, if not all, of the deputy factory inspectors should be competent physicians, so that the factory inspection may be as thorough and reliable as the medical inspection of schools.

"It is my hope that the sanction and authority of this influential body may be given to some measures looking to the amelioration of a few, at least, of the conditions here described."

HORSE, DOG AND THE MAN.

The horse and the dog had tamed a man and fastened him to a fence;
Said the horse to the dog: "For the life of me, I don't see a bit of sense
In letting him have the thumbs that grow at the sides of his hands —do you?"
And the dog looked solemn and shook his head and said: "I'm a goat if I do."

The poor man groaned and tried to get loose, and sadly he begged them: "Stay!
You will rob me of things for which I have use by cutting my thumbs away!
You will spoil my looks, you will cause me pain! And why should you treat me so?
As I am God made me, and He knows best! Oh, masters, pray let me go!"

The dog laughed out and the horse replied: "Oh, the cutting
won't hurt. You see,
We'll have a hot iron to clap right on, as you did in your docking
of me!
God gave you your thumbs and all, but still the Creator, you
know, may fail
To do the artistic thing, as He did in furnishing me with a tail!"

So they bound the man and cut off his thumbs and were deaf to
his pitiful cries,
And they seared the stumps, and they viewed their work with
happy and dazzled eyes;
"How trim he appears," the horse exclaimed, "since his awkward
thumbs are gone,
For the life of me I cannot see why the Lord ever put them on."

"Still, it seems to me," the dog replied, "that there's something
else to do;
His ears look rather too long to me, and how do they look to
you?"
The man cried out: "Oh, spare my ears! God fashioned them as
you see,
And if you apply your knife to them you'll surely disfigure me."

"But you didn't disfigure me, you know," the dog decisively said,
"When you bound me fast and trimmed my ears down close to the
top of my head!"
So they let him moan and they let him groan while they cropped
his ears away,
And they praised his looks when they let him up, and proud in-
deed were they.

But that was years and years ago, in an unenlightened age!
Such things are ended now, you know! we have reached a higher
stage!
The ears and thumbs God gave to man are his to keep and wear,
And the cruel horse and dog look on and never seem to care.

—S. E. KISER, in "Rider and Driver."

COSMOPOLITAN HEALTH STUDIES.*

By F. L. OSWALD, M.D.,
Author of "Physical Education," "The Remedies of Nature," Etc.

VII.—AUSTRIA.

If physical vigor and beauty are tests of health, the Austrian Empire can be said to afford almost unrivalled opportunities for sanitary studies. Climatic and geographical advantages have favored it to a degree unequalled by any other country of the eastern continent, and its present population comprises the finest physical types of at least four different races: the German Tyrolese, the Latin Dalmatians, the Slavonic Highlanders of Carinthia and the Turanian (West-Mongol) Magyars.

All Austria, in fact, is a *menschen-garten,* a nursery of physically superior varieties of the human species, and the secret of that prestige can be found in the multitude of its mountain ranges and the hygienic influence of its climate, which (allowing for the considerable increase of temperature) seems at present to approximate that of ancient Greece and Italy.

Forest destruction has turned many once fertile regions of the Mediterranean coastlands into deserts, but has indirectly benefited the highlands of central Europe by shortening their winter season one-half. In districts of the eastern Alps, where snow blockades interrupted the campaigns of the Roman armies for six months of every year, agricultural labor can nowadays be resumed before the middle of March, and even in midwinter there are weeks when the *foehn,* the furnace breath of the southwind, melts the snow fields by thousands of square miles, and enlivens the upland pastures with gamboling marmots.

And nearly every one of the fifteen Austrian provinces has mountains deserving that name in the Switzerland sense of the word. The Transylvania highlands rise to a height of eight thousand feet above the valley of the Danube. The Moravian Mountains and the Boehmer Wald ("Bohemian Forest") have tablelands a thousand feet higher than that of western North Carolina. The Carpathians rival the Alps, and the Alps themselves range through fourteen degrees of longitude, and, with their foothills, cover an area of forty thousand square miles.

*Continued from page 218.

These "palaces of Nature" have, to some degree, favored the survival of aristocratic prejudices; highlanders are not always highminded, and "Freedom, the Mountain Nymph," would get promptly arrested in the Tyrol; but it is equally certain that they have preserved superlatives of physical manhood that have become rare in the lowlands.

Prince de Ligne, in his essay on the location of the earthly paradise, points out the probability that the Garden eastward in Eden, with its headwaters of four divergent rivers, must have been a region of considerable altitude, and it can hardly be an accident that the ideals of man's physical development were most nearly realized in ancient Greece (mountains, nine-tenths of it) and in the modern Caucausus.

But it is true that elevation above the coast swamps, like distance from the equator, answers its health-promoting purpose only up to a certain limit. North of the sixty-fifth parallel stalwart Scandinavians suddenly turn into *skraelingers*—"scrawny dwarfs," as the Norsemen called the natives of the Arctic Circle—and highland pioneers, attempting to colonize a Land of the Sky above the timber line, generally pay the penalty of their mistake in physical degeneration. The strange affection of the goitre is as common in the summit regions of the Austrian Alps as in the Swiss Oberland, and its alleged connection with limestone water is a rule modified by rather too numerous exceptions. Rarefied air may have something to do with its predisposing causes, and its hereditary transmission is limited to two or three generations after a family's removal to the Unterland. In 1720, some sixteen thousand Salzburg highlanders migrated *en masse*, to escape the fate of the Waldenses. Four-fifths of these refugees accepted an invitation to Prussia, and German physicians cross-examined them about the causes of a rather prevalent deformity—*kroepfe*, or monstrously swollen necks, hanging down like bags, in some cases.

"It can't be helped; it's *erblich*—hereditary"—said the patients, in their dread of surgical experiments; but before the end of the century the change of climate or some other removal of an unknown cause had remedied the evil.

Cretins (semi-idiots), too, are found in the summit regions of the Austrian Alps, though not nearly as often as in the Pyrences—the difference being probably due to the fact that political and religious persecution tempted Spanish refugees to brave the hardships of more inhospitable highlands.

The upper limits of the timber line are still fairly propitious

to health, but the most favorable altitude of the temperate zone seems to be that comprised between an elevation of three thousand and five thousand feet above tide water. Here, pure air and outdoor exercise have developed the indefatigable hunters of the Carpathians, the iron-fisted Tyrolese wood-cutter and the invincible highland tribes of the Montenegrin border.

Admirers of ancient Greece and the products of classic Nature-worship and physical culture should not go to Athens, but to Cattaro, at the southeast end of the Austrian Empire, to study their ideal from living models. The town is in easy reach of the Trieste steamers, but the natives of the neighboring highlands tower above the average Italianos like resurrected heroes of the past, haunting the daylight of the twentieth century.

On the market-place highlanders of six feet four and above can be seen walking erect under a ten-stone burden of country produce. Many of them have come from the vicinity of Czetinje that morning, and expect to retrace their steps before night, but utilize the noonday recess for athletic sports—wrestling, leaping and weight-throwing. Physical exercise has become a pleasure to them, like tinkering to a Yankee Jack-of-all-trades, or counting-house drudgery to Baron Rothschild. The very shepherds on their lonesome upland pastures while away time flinging stones at a mark, and one of them stops in front of an Austrian guardhouse to throw aside his plaid and exhibit a galaxy of medals, won in many a desperate foray of the Turkish border.

"Medals are not quite so cheap in Vienna," says an Austrian sergeant, and in reply the highlander grabs his upper arm and tightens his clutch till the metropolitan squeaks for mercy.

These semi-savages have an ear for music, too, and will stop on the street to drink in the symphonies of a piano player in a private residence, but would rather accept an invitation to a good border-fight than a ticket to the finest opera in southern Europe. During the first week of May, 1858, hundreds of them evaded the vigilance of their Austrian frontier guards to join their kinsmen in Montenegro, where the Turk was again mustering in force, and on the 12th of the month overruled the injunction of their own leaders and hurried downhill in time to participate in the battle of Grabovo. Their kinsmen received them with acclamations, and Mirko Petrovich, the Montenegrin commander, at once ordered a charge upon the Turkish entrenchments.

"They rushed ahead," says an eye witness, "firing as they ran, till about a pistol shot from the Turkish lines, where they paused

for a few seconds, while each man devoutly crossed himself, looking up to heaven. Then, dropping their muskets and seizing their yatagans (heavy broadswords), they threw themselves headlong on the foe. Neither the flashing volleys of cannon and musketry nor the double line of entrenchments availed against that shock. A minute of hand-to-hand fight, another rush, and the mingled torrent of conquerors and conquered went raving down the stream of flight. Six thousand seven hundred Turks were cut to pieces before the pursuit slackened, and the booty included two hundred cart loads of commissary supplies and almost all the Turkish artillery."

Certainly no Slavs whose name can be derived from a predilection for slavery, they are restlessly active, hunting and mountain-climbing when there is no chance for a fight, yet these athletes are rivalled in the Tyrol and in the eastern Carpathians.

"Mon Dieu! How I do like your grenadiers," said Frederick the Great at his interview with Joseph II. "If the god of war should be in need of a bodyguard, I should advise him to enlist them at any rate of bounty."

Modern Hungary, too, would offer good fields for a recruiting officer of that sort, and, altogether, travelers in the dominion of Francis Joseph are constantly impressed with a foreboding that these conservatism-hampered subjects of his will yet play an important part on the political stage of Europe. Austria's blunders in foreign politics have been expiated by a series of defeats that would have ruined any other country, but the heritage of the Hapsburgers has stuck together, and all history proclaims the fact that physical vigor without mental culture is out and out more easily remedied than its reverse. A century after the battle of Xeres de la Frontera the conquests of the brutally ignorant Saracens bloomed with universities and commercial emporiums, and the equally savage Celt-Iberians needed merely the advantages of Roman citizenship to develop such men as Trajan and Lucius Seneca, but only amalgamation with a stronger race can cure the marasmus of physical decrepitude.

The irruption of the Magyars has thus improved the aborigines of the Danube Valley, and Austrian ethnology ought to furnish manifold criteria for Professor Kohl's theory about the development of genius by race mixtures. According to the views of that much-traveled observer, the offspring of heterogeneous unions may combine the worst qualities of both parents, or else the mother's merits and father's faults may neutralize each other; BUT it also

may happen that a son inherits the best characteristics transmitted by both lines of ancestry, and these exceptional, but undoubtedly possible, conjunctions result in the development of superior men. Latin-Etruscan alliance gave birth to the Roman Empire; Celtic-Saxon and Norman commixtures made England teem with genius.

In Vienna and Budapesth intermarriages of half a dozen different races are of daily occurrence, and Austria has *originated* more talent than any other part of central Europe; but the trouble is that it met with no encouragement—Joseph II (mentally more than the peer of Frederick the Great) worn out by a deadweight of conservative opposition, Keppler starved, Lenau snubbed and neglected, Kossuth imprisoned and hounded to silence, though at one time,

"Not Mirabeau, nor Ireland's Dan,
Could have tried conclusions
With that pale, jail-worn man."

Music is patronized to a degree that enabled the nation, or rather nation-mixture, to evolve a Mozart, and it must also be admitted that the rule of the Hapsburgers has not been inauspicious to certain non-political sciences. Medicine flourishes, and not in the circumscribed liberal sense of the word only; the Empire abounds with excellent hygienic institutes, and has the honor of having tolerated, if not directly encouraged, the development of hydropathy. Nearly a hundred years ago and at a time when medical trade corporations were very exclusive, an Austrian highland-granger, without a shred of diplomas, ventured to establish a hospital for the cure of disease by a method of his own. In Russia he would have been drowned in his own water tanks. Prussian courts would have indicted him for *kur-pfuscherei,* say, "running the risk of malpractice."

Austrian M.D.'s did cause him some trouble, and involved him in lively controversies, but having accepted an invitation to inspect his sanitarium, they agreed to give him a chance. Curiosity had got the better of their combativeness, and they felt rather proud of their country when his *wasserheilanstalt,* in spite of its horrible name, began to attract health-seekers from all parts of Europe.

In the promotion of physical culture by gymnastics Austria might seem to have been strangely backward, if it were not for the fact that the whole Empire is a great natural gymnasium. Twenty years ago there were hundreds, at present there are perhaps thousands, of mountaineering clubs; the peasants are in-

dulged in rather rough trials of physical prowess, and the hunting passion is almost universal. The Emperor sets a good example by visiting the upper Alps twice a year; almost every landed proprietor has a game preserve of his own, and in stress of politics follows the advice of a Tennessee philosopher:

"If thar's a mortgage on the town—go hunting;
If this whole country's upside down—go hunting;
Just take the whole damned thing in fun,
Thar's game, thar's game, so get your gun;
Go hunting."

Hunting and mountain-climbing also help to counteract the effects of the besetting national *foible,* if that word can be applied to a passion for gastronomic *tours de force.*

"What made you chain up that elephant? Is he vicious?" asked the visitor to a German zoo.

"No, no; he wouldn't hurt a soul," said the keeper, "but he has the *weakness* to jerk out every tree he can get hold of."

And only stomachs of abnormal vigor could begin to digest the five daily meals, to which Vienna burghers often add a "night cap" of beer and sausage, with a big hunk of bread.

It cannot help shortening their lives by many years; but, thanks to the habits of the hardy highlanders, the national average of longevity still ranks above that of frugal Spain and Italy.

And who can say if those five daily meals are a greater national disgrace than the five *weekly* meals of an Aragon school-teacher, who staggered into the assembly hall of a Barcelona science league and apologized for his inability to speak without pauses of exhaustion.

Magnificent highland forests have preserved the fertility of the Austrian Empire, and general famines have not been known since the days of the Turkish wars.

(*To be continued.*)

FORGOT HER PRAYERS.—A four-year-old girl was spending a night away from home. At bedtime she kneeled at her hostess' knee to say her prayers, expecting the usual prompting. Finding Mrs. B—— unable to help her out, she continued thus: "Please God, 'scuse me; I can't remember my prayers, and I am staying with a lady that don't know any."—"Chicago Record-Herald."

NEW JERSEY'S PUBLIC WATER SUPPLY.

The late HENRY B. BALDWIN, retiring president of the New Jersey Sanitary Association, at the meeting in Lakewood, December 7, 1901, made an address upon this subject, in which he said in part:

"The question of water supply in this State has been a subject of discussion and inquiry in the annual reports of the State geologist for 1868, and from 1874 to date. The reports of the State Board of Health have dealt with it to a considerable extent. The report of Croes and Howell to the Newark Aqueduct Board in 1879, and that of the Commissioners of State Water Supply in 1884, were also valuable additions to its literature. But by far the most complete, exhaustive and comprehensive treatise on the subject is that of C. C. Vermuele, which comprises 'Part III. of the Final Report of the State Geologist for 1894.'

"It is here stated that the city of Trenton was first supplied with water in 1783, Morristown in 1799, Newark about 1800, Burlington in 1804 and Mount Holly in 1846. These five places appear to be the only ones supplied with water up to 1850. From 1851 to 1860 water was introduced in Jersey City, Camden, Elizabeth, Hoboken, Paterson, Bordentown and Hackettstown, in the order given, making in all twelve places supplied in 1860. From 1861 to 1870 only New Brunswick, Flemington and Millville were added, making fifteen in all, while in 1882, thirty-one places were supplied, and in 1894 the total had risen to eighty-one. The State Board of Health report for 1900 gives a list of 160 municipalities supplied with water, fifty-six of which have obtained it within the last ten years.

"So far as I am able to ascertain, New Jersey is well ahead of her sister States in the large proportion of towns having public water supplies. There are now but nine of the fifty largest cities of the country which do not own their water supplies.

"In considering the subject of State water supply we must not forget the fundamental and practical questions: What are the resources of our supplies? What is the quality? What is the increase in consumption? How long will it suffice for our needs?

"The answers to these questions may be found in detail in the report of the State geologist for 1894. In general the waters of the State are of good quality. As to quantity, the above report sets forth that 'the water supply resources of New Jersey are ex-

cellent, and, if they are judiciously developed, will support the needs of a very large population.'

"This statement is doubtless true, but it is made contingent on judicious development. It is thus highly important that there be no delay in the conservation of our available supplies for the requirements of the future.

"Here is a table of estimated future population supplied and daily consumptions from 1890 to 1910, as given in the 'Report of the Commissioners of State Water Supply, 1884,' for the counties of Essex, Hudson and Union, and the cities of Paterson and Passaic:

Year.	*Population.*	*Daily consumption.*	*Gallons daily per head.*
1890.....	583,000	50,000,000	93
1900.....	683,000	67,000,000	98
1910.....	867,000	90,000,000	103

"Here we have an estimated population in 1900 of 683,000 against an actual one of 982,402, a figure which is more than 100,000 in excess of the estimation for ten years hence. So with the consumption of water, where instead of the estimated 67,000,000 gallons per day for 1900 we have an actual use of 74,000,000 gallons daily as far back as 1894.

"It is obvious that a very large amount of water will be required in the comparatively near future. In addition to increased consumption, the spreading population, by polluting the watersheds, decreases the available area for collecting pure water.

"In trying to solve this problem of increasing consumption with a diminished purity four remedies suggest themselves: A reduction in per capita consumption; prevention as far as possible of pollution of water sheds; a more extended use of ground water; purification of large, but at present more or less impure sources of supply.

MUST USE GROUND WATER.

"By preventing pollution of at present unused watersheds we can make available for future use a comparatively large additional supply of water, but the coming demands will be so great it seems as though our only solution of the question would be the purification of the water of the larger streams and the use of ground water. Both of these plans have already been resorted to.

"The typhoid fever death rate has come to be accepted as the most reliable, practical evidence of the quality of water supplied

to any given community, not excepting chemical and bacteriological analysis. But it costs many lives and a considerable period of time to find out by that means the comparative purity of a city supply. When we analyze a series of typhoid statistics we obtain the most conclusive evidence that the introduction of purer supplies and the purification of old ones bring about a remarkable reduction in the number of deaths from that disease. The past results and our present and growing knowledge of hygiene justify the hope that in coming generations typhoid fever will be a very rare disease.

"As yet New Jersey has but few filtration systems in use, but the tendency is growing, and soon this State will be able to boast of a special system of sand filtration, which will have a capacity far above any other in the country, and, it is stated, slightly exceeded only by Berlin and Hamburg abroad. These works are being built at Little Falls, by the East Jersey Water Company, and are rapidly approaching completion.

"No doubt there is still much water to be obtained from the ground, but the idea that the supply is inexhaustible is a popular fallacy, and it is the opinion of engineers that eventually the bulk of public supply will have to come from the surface.

"In conclusion, it is desired to emphasize the importance of the purification of public water supplies. Even a supply like that of Newark, which is considered by water experts to have no superior in the country, should be so filtered or treated as to make it appear as good as it really is, for it must be admitted that popular judgment of any water is based almost entirely on its physical properties. New Jersey occupies a leading position in the list of States in the matter of water supply. Let us as an association increase our vigilance toward this subject, for there is no sanitary problem which requires more foresight than that of supplying an ever-increasing population with water, the quantity of which has a very definite limit."

FOR THE PREVENTION OF LEPROSY.

January 22, 1902, Mr. Platt, of New York, introduced the following bill, which was read twice and referred to the Committee on Public Health and National Quarantine:

A Bill to provide for a national leper law for the suppression and prevention of leprosy in the United States of America.

Be it enacted by the Senate and House of Representatives of

the United States of America in Congress assembled, That to carry out the intention of the Berlin Lepra Conference, which had for its object to bring to the attention of every government the evident spreading of leprosy in every country where isolation is not practiced, and the danger to civilized communities by the insidious inoculation through unrestrained movement of lepers among their own people and from one country to another, that a commissioner on leprosy be appointed by the President, by and with the advice and consent of the Senate, his term of office to be five years. He shall be a regularly educated physician, holding a diploma conferred upon him by a legally incorporated medical college in the United States. He shall reside at New York or San Francisco. He shall have had at least ten years of general experience in the practice of medicine and a particular experience in a leper community. He shall be entitled to a salary of five thousand dollars per annum, to be paid to him by the Secretary of the Treasury on the first of each and every month pro rata. He shall call to meet annually the presidents or executive officers of all the State boards of health, their necessary traveling expenses being paid by the Secretary of the Treasury.

Section 2. That a mile square (six hundred and forty acres of land) shall be set aside for the location of a national leper home in some part of the public domain far from the Atlantic and Pacific coast lines, where the climate is dry and antagonistic to the life of the leper bacillus; the site to be chosen by a board of leprologists, consisting of the national commissioner of leprosy and four experts in leprosy, to be appointed by the State boards of health of Louisiana, Minnesota, California, and Florida.

Section 3. That an appropriation of fifty thousand dollars is hereby made for the purpose of erecting suitable buildings for the habitation of the lepers of the United States, not including those of Hawaii, Porto Rico, Cuba, or the Philippines, in accordance with the plans to be drawn and approved by the commissioner of leprosy to be appointed by the President, and for the support of the lepers received from the different State boards of health.

Section 4. That it shall be unlawful for any State board of health knowingly to keep or allow to be kept within its jurisdiction any leper, unless such leper is isolated in a special asylum away from patients suffering from other diseases, or to permit such leper, if able to take care of himself, or if he is taken care of by his family, to remain in his family or with strangers in the household otherwise than under the strict supervision of the State board of health, approved by the national commissioner of leprosy.

In no case shall such leper be permitted to reside in any public boarding house, hotel, or eat at a public restaurant. His clothing is to be kept apart and his washing to be done separately. In no case shall his clothes be washed in a public laundry. He must use and wash his own eating utensils, sleep alone unless married, and have no bodily contact, such as kissing, and so forth, with any other member of his family. It shall be the duty of the State board of health, approved by the national commissioner, by strict supervision, to enforce the observance of these rules.

Section 5. That lepers unable to care for themselves must be turned over to the national commissioner of leprosy, who shall cause them to be transported to the national leper home at the cost of the National Government.

Section 6. That it is recommended to all State boards of health, but not compulsory, to turn over all their lepers, the well-to-do as well as the poor, if possible, to the national commissioner.

Section 7. That it shall be unlawful for any steamship company or other vessel or railroad to bring to the United States any leper, or to accept any emigrant from any of the countries known to be leprous, to wit, especially Canada, Mexico, Hawaii, Japan, China, India, Spain, Portugal, Norway, Sweden, Finland, Russia, Iceland, West Indies, the States of South America, without a special certificate of health from the Government state board of health of the emigrant's country, countersigned by the United States consul and the Marine Hospital surgeon attached to the consulate of the country at the emigrant's port of embarkation.

Section 8. That emigrants of known leprous family, but free of the disease themselves, are to be kept under strict supervision by the local boards of health in the United States for a term of seven years, at the end of which time, if no leprosy has developed, they are to be free of any further supervision.

Section 9. That should a leper enter the United States in spite of these precautions, it shall be the duty of the local State board of health to have him or her sent back by the consul of his or her country at his port of disembarkation.

Section 10. That in the operation of this national leper law no discrimination shall be made between a citizen of the United States who has contracted leprosy in the United States and a foreigner who has contracted the disease in a foreign country.

Section 11. That the Marine Hospital Service of the Treasury Department of the United States shall have full charge of the national leper home.

MEDICAL EXCERPT.

By T. P. CORBALLY, A. M., M. D.

DISTURBANCE OF THE PUPILS IN AORTIC LESIONS.—M. Vaquez, in a report presented to the Société des Hopitaux ("Le Progrès Médical," February 15, 1902), remarked that recently M. Babinski had characterized as unsatisfactory the explanation that is usually given of the disturbance of the pupils in aortic lesions, by attributing them to compression of the cervical ganglion of the sympathetic or of the nerve filaments that arise from it. This pathogenic hypothesis may be found to exist in some cases, but the same influence could not be given to it as in cases of recurrent laryngeal paralysis. In the great majority of cases the compression cannot be the cause; besides, the distinctive sign of Argyll-Robertson coexists with it, and M. Babinski thinks he can attribute the trouble of the pupil as the disease of the aorta to the same cause—syphilis.

M. Vaquez has observed three patients suffering with aortic lesions, purely valvular and without dilatation.

With those patients who admit antecedent syphilis there was disease of the pupils, myosis in some, inequality of the pupil in the others, and all presented the sign of Argyll-Robertson. In two of these patients there was less of reflex rotuliens, and notwithstanding all the other, it might be asked very justly if it was not a case of incipient tabes. These facts serve to support the observations made by Mr. Babinski. M. Vaquez proposes to call these cases of disturbance of the pupil associated with aortic lesions, the syndrome of Babinski. The study of this syndrome, intimately associated with syphilis, will enable the practitioner to diagnosticate cases of tabes from the beginning, and may explain, perhaps, the good effects obtained in aortic lesions by a prolonged treatment with iodine as advised by Potain.

INTESTINAL TUBERCULOSIS.—M. Landouzy, at the Académie de Médecine ("Le Progrès Médical," January 25, 1902), speaking of intestinal tuberculosis and its relation with tubercular mortality in insane asylums, thus analyzes the labors of MM. Anglade and Chorreaux, who state that the great mortality from tuberculosis in insane asylums, according to statistics, is three times as great as it is in the average population of the globe.

The form it usually assumes is that of intestinal tuberculosis; the pulmonary symptoms are but little marked. The disease seems to be more generally transmitted through the dejections from the bowels than through the sputum. The disinfection of the clothing thus soiled becomes extremely important. The prophylaxis of tuberculosis in insane asylums is of real importance, for there are 10 cases in 300 insane; there is the extraordinary increase in proportion of 3 in 40 among the religious in the infirmaries.

GELATINE IN ALIMENTATION.—M. Lombard has presented to the Société de Pathologie ("Progrès Médical"), in his own name and in that of M. Laffont, an article on the therapeutic employment of gelatine in alimentation and its effects on the plasticity of the blood and the pathological phenomena induced by this plaxity.

According to these authors, diabetes albuminuria and hemophilia have always, if not the same etiological effect, at least the same origin; a variation in the cryoscopic properties of the blood. These variations cause in time hepatic changes, and also renal and capillary; this in the same way that different solutions change the filtered products that have not been compounded properly for the specific object for which they were united. Even when a lesion is anatomically, these authors think that by restoring the plasticity of the blood to its normal condition, satisfactory results may be obtained.

To do this they have experimented with gelatine, and in its administration have substituted for the hypodermic injection its absorption through the stomach by giving to their patients a daily allowance of 15 grams of gelatine in water.

TREATMENT OF IMPALUDISM.—M. Gautier experimented in Algeria on nine patients suffering with impaludism or marsh fever of a virulent character that proved rebellious to quinine in large doses, even extremely large. He employed a new derivative of the cacodylate, the methylarseniate disodic, which was entirely free from toxic properties. The results obtained surpassed all his hopes. The nine patients so treated were all impervious to the action of quinine in large doses, but were rapidly cured by the use of the new remedy. In two of the cases there was a slight relapse, but the disease yielded to large doses of the cacodylate derivative.

It will be observed that in these cases of fever the disease was contracted and treated on African soil, a location which imprints generally on the disease an unusual degree of severity.

EXPERIMENTS ON THE ANTAGONISM OF MEDICINES.—M. Morel has presented to the Société de Thérapeutique ("Le Progrès Médical," February 8th, 1902), a report of his experiments on the antagonism that may exist between two medical substances, and has arrived at the following conclusions:

Leucocytes in 100 grams of blood are killed by 26 milligrams of atropine, or by 50 milligrams of pilocarpine, when the experiment is made with each of these substances separately. But the leucocytes remain active when the two substances are united in one dose.

If experiments are made on an animal, the following results are obtained: Thirty centigrams of atropine will kill a frog weighing one kilogram; 2 centigrams of pilocarpine will kill a frog weighing 1 kilogram. But if 25 milligrams of pilocarpine be united with 40 centigrams of atropine, the animal survives.

This antagonistic action becomes a curative action when the two poisons are employed, not simultaneously, but one after the other.

If, for instance, 30 centigrams of atropine be given to a frog weighing one kilogram, then, when the animal is largely under the influence of the dose, three centigrams of pilocarpine are given, the animal survives.

Ergotine and atropine are equally antagonistic.

SMALLPOX THERAPY.—The prevalence of a mild type of smallpox throughout the country gives the therapy of that disease especial interest at the present time. Vaccination is, of course, unquestionably not to be overlooked as a preventive measure; but in addition, infection may be made much more unlikely, and, where infection has taken place, the course of the disease considerably shortened and shorn of its terrors, by the administration of the valuable anti-purulent ecthol. The Battle Company has just issued a pamphlet dealing with the use of ecthol in this disease. The pamphlet should be in the hands of every physician who may be called upon to treat smallpox. It will be sent to any physician who makes the request.—"Medical Fortnightly."

THE SCHERING DISINFECTION METHOD of houses, rooms and furniture, by means of the solid formalin pastils to be vaporized in the Schering lamp and the Schering disinfector, is conceded by eminent authorities to be the most effective and practical that can be employed.

For the thorough disinfection of buildings and sick-rooms the rapid production of large quantities of formaldehyde gas should

be effected. Full directions for its employment accompany the apparatus. An important point to be observed is that a temperature about that of ordinary living rooms (71° F.) is required for the development of the full efficacy of the gas. Professor E. Grawitz, Director of the City Hospital at Charlottenburg, Berlin, calls especial attention to this point in the "Hygienische Rundschau," Berlin, April 15th, 1901, which enabled him to reduce the time for disinfection to eight hours. He has employed the Schering method with this precaution for the last three years in rooms that have contained cases of scarlet fever, measles, whooping cough, and diphtheria, and which were mostly used for other patients immediately after disinfection, without a single case of infection from this source.

SCIATIC PAIN—PROMPT RELIEF.—In reporting his experience in the treatment of sciatica, Fred. E. Davis, M.D., of Brookside, Ala., writes as follows in "Annals of Gynecology": "I have been giving anti-kamnia and heroin tablets a thorough trial in the treatment of sciatica and I must say that my success has been phenomenal indeed. I have also induced two other physicians to give them a trial, and their success equals or surpasses my own. I meet with many cases of sciatica and until anti-kamnia and heroin tablets were introduced I was compelled to use a great deal of opium and morphine to relieve the pain. Since then, though, I have not given either. One of my patients had been confined to bed for three weeks during her last attack of sciatica. I prescribed one anti-kamnia and heroin tablet every four hours and in forty-eight hours she was up and about and has not felt the pain since. I thank you for the introduction of this most excellent remedy and assure you of my willingness to report the results of still further investigation."

SOME NEWER ASPECTS OF HEREDITY IN TUBERCULOSIS AND THE SANATORIUM TREATMENT.

E. R. Baldwin ("Yale Medical Journal") calls attention to the fact that patients may inherit a certain weak place in the body, as, for instance, in the lung, so that the disease in the child breaks out in the same place as in the parent. Certain statistics of patients under his own observation reveal the following facts: In about sixty-three families con-

taining one hundred and sixty-six tuberculous persons, 70 per cent. first developed the disease in the corresponding lung. Ninety-four of these patients came under his observation. In the remainder, the history was obtained from their relatives. In twenty-eight families where parental tuberculosis existed, 78 per cent. had children with corresponding disease. In one family the father and four children had the same lung first affected. In thirty-five families with one or more tuberculous brothers or sisters (parents not affected), 63 per cent. had corresponding disease. These proportions are large enough to suggest, incidentally, a practical point in diagnosis. The family physician, knowing the location of the disease in one member of a family, should be alert in seeking for signs in the corresponding lung of others in the same family. Again, it has long been known that small hearts were characteristic of tuberculous individuals, and this also may be an inherited condition. It is probable that the inheritance of vulnerability in a point of least resistance in the lungs belongs to the same category. The fact that the inherited characteristics are not necessarily the product of tuberculous disease in the parent, of course, does not contradict the observation that where the mother suffers from tuberculosis before the birth of offspring, the infants will probably have a very weak constitution as a direct result of the poisons produced in the tissues of the mother. It is not so clear that this occurs in the case of the father, but such children die of marasmus or of indefinite diseases, and usually survive but a short time. If, however, the tuberculous mother has no acute symptoms, and has good nutrition, there are many instances of very healthy children being produced, and were it not for the presence of infection after their birth, more might grow to strong maturity.

NERVOUSNESS GAVE HIS WORDS A TWIST.

Everything was in readiness. The groom, best man and the minister were gathered in the vestry. The organist began to play and the minister started for the door.

"Wait one moment, doctor," called the nervous groom. "Is it the right or left hand the ring goes on?"

"The left," hurriedly replied the minister.

"And, doctor, is—is it kisstermary to cuss the bride?"—"Philadelphia Times."

EDITOR'S TABLE.

SANITARIAN, APRIL, 1902.

☞All correspondence and exchanges, and all publications for review, should be addressed to the editor, Dr. A. N. Bell, 337 Clinton St., Brooklyn, N. Y.

BROOKLYN WATER AGAIN NOT FIT TO DRINK.

No reader of THE SANITARIAN is ignorant of the constant liability of the Brooklyn water supply to pollution for at least twenty years past. For, for this length of time at least, the engineers in charge have ignored protection and storage. Instead of their duty, they have devoted their energies to a denial of the sufficiency of the Long Island source of supply and urgency of Lake George, or oher far-away sources, requiring extensive engineering. Meanwhile, on all occasions of extraordinary rainfall or melting of snow, such as occurred during the latter part of February and first of March, the barn-yard and privy-vault drains of Hempstead and other places round about have been subject to overflow, and to become tributary to the storage reservoirs. Had proper attention been given to the protection of the reservoirs and making them hold water, such sources of pollution, as well as sometimes scarcity of supply, would have been wholly obviated, and can be so in future with forceful attention to the requirements.

The record of deaths from diarrhœal diseases in Brooklyn, for the five weeks ending March 15th, was nineteen, twenty-one, twenty-two, twenty-four, *seven*—the latest record at hand on closing this number—for the week next following Dr. Raymond's announcement in substance: "Brooklyn water, *raw*, is not fit to drink. Boil it!"

MORE PUBLIC BATHS NEEDED.

A mass meeting was held two weeks ago for the purpose of urging the erection of more public baths in the crowded districts of New York City, in accordance with the pledge of the Citizens' Union platform. Robert Fulton Cutting presided at the meeting, and was the first speaker. He was followed by Charles Sprague Smith, who, among other things, said:

"Liverpool, with a population of 668,000 (ours is 3,500,000), has

spent on public baths more than all American cities combined. Glasgow, with 732,000, has twelve public baths and five swimming pools.

"The Continent, especially Germany, which seems to have received stimulus from England, is scarcely behind. As a rule, it is assumed in Germany that there should be one swimming bath for every 25,000 of population. And if we turn to that vigorous young-old nation of the East, Japan, Tokio has 800 public baths and 300,000 daily bathers, in a population of a little over 1,000,000.

"In this country, Boston, I believe, takes the lead."

Among the other speakers of the evening were: William H. Baldwin, Jr., John De Witt Warner, and the Rev. Dr. Maurice H. Harris, Rabbi of the Temple Israel in Harlem. At the close of the meeting a set of resolutions to urge the municipal authorities to give the east side more baths was read and adopted.

On this "The Times" pertinently remarks that a climate like that of New York, which for four months of the year is almost sub-tropical, requires that the most ample and accessible facilities should be afforded for bathing. There have been some modest efforts of private enterprise, but the city has taken no cognizance of this need except the erection at a few points along the river front of baths, open alternately to either sex, and which are available for about four months of the year. For the rest of the time, a population estimated to be fully 65 per cent. of the total of the city is without access to bathrooms. The comparatively narrow space in which most families are compelled to live increases the intensity of the evil by making even provisional bathing arrangements difficult of creation.

Such a condition as this is a menace to the city's health, is a discredit to the city's humanity, and a reflection on the city's enterprise. The present administration can give no more welcome proof of its purpose to shape the course of the municipality toward a better future than by appropriating during its term of office as much money, as its somewhat cramped financial condition will permit, to the erection in various quarters of Greater New York of bathhouses so planned and constructed that they will be capable of future development. Laundry facilities, available to the very poor, are a necessity, and public bath buildings should be so constructed as to permit of their introduction whenever, in the future, the city government can afford the money necessary for their creation.

The proof of the need of these public conveniences is in the fact

that upon such baths as now exist the strain of service is great and continuous, even in the small baths which are run as commercial enterprises. On days when cessation of work for any reason occurs, long lines of people may be found waiting for their turn to enjoy the opportunity of bathing. Because this is necessarily a service to the poorest element in the community, commercial enterprise has not hitherto shown itself eager to take it up, and therefore it becomes the duty of the public—in the interest of good morals, clean living, and betterment of its citizens—to expend whatever money may be needed for its realization.

PROVISION FOR CONSUMPTIVES.

The application of Commissioner Folks, of the Department of Public Charities, for a sufficient appropriation, estimated at about $88,000, for the repairing and equipment of the buildings on Blackwell's Island, lately vacated by the insane patients, and their conversion into hospitals to be devoted to the care of tuberculosis patients, merits respectful consideration from the Board of Estimate and Apportionment, and should receive the hearty support of the medical organizations of the city. Such an institution is a public necessity, and its establishment would greatly diminish, if it did not wholly remove, what is now a grave menace to the public health. There are in the tuberculosis infirmary of the Metropolitan Hospital, which offers convenient accommodations for 80, about 120 patients. In other wards of this institution there are some 87 more, not isolated, as they should be, and in the Almshouse, also not isolated, about 120. This is so far at variance with what is now accepted as safe practice in the handling of this dread disease as to suggest that we are still only semi-civilized in the discharge of our responsibilities to consumptives, and not more so in our treatment of the sick who are exposed to it needlessly, and even criminally.

The contagious nature of tuberculosis has long been recognized, but not until the end of January of the present year was there any attempt in the public hospitals of this imperial city to separate persons suffering from it from those free from it.

The now vacant buildings on Blackwell's Island are well suited for the purposes of tuberculosis isolation, and are near the Metropolitan Hospital, but still sufficiently removed to adapt them for the use in view. Their proximity permits of the advantage and economy of a common administration of the two institutions, and will

make the installation relatively inexpensive. Not much structural change is called for in the now vacant buildings, and the only important addition needed is a glass-inclosed pavilion for sun baths and open-air treatment. It would offer accommodations for from 450 to 500 patients, which it is believed will meet the requirements of the city for a considerable time to come.

This subject should be taken up by the medical profession of New York, and the moral support which Commissioner Folks needs in carrying on the important reform begun by him in the establishment of the small and inadequate tuberculosis infirmary in connection with the Metropolitan Hospital should not have to be solicited. The plan conflicts, no doubt, with that to which Mr. Cantor has lent the support of his official approval, of converting Blackwell's Island into a park for pleasure and other purposes. If so—well, so much the worse for Mr. Cantor's plan, which we imagine no one takes quite as seriously as he appears to. To sell or lease an inch of this island for any other purposes than those connected with the charities and correction administrations of New York would be an irreparable mistake. Within a few years it will all be needed for uses for which no part of New York or no spot in its environment is anything like as well adapted.

STATE MEDICINE IN NEW YORK.

We extract from our esteemed contemporary, "Albany Medical Annals," on the spot, the following abstract of Bills that have been introduced in the Legislature since January 1, ostensibly for the promotion of the public health:

Senate Bill No. 16. Introduced by Mr. Hill. Assembly Bill No. 70. Introduced by Mr. O'Malley. An Act "To amend the public health law and the acts amendatory thereof, in relation to pharmacy, and repealing certain sections thereof." Introduced January 1st, read twice, and referred to Committee on Public Health. This amendment relates only to the election of the members of the State Board of Pharmacy for the Eastern Section.

Senate Bill No. 40. Introduced by Mr. Brackett. Assembly Bill No. 75. Introduced by Mr. Rogers. An Act "To amend the insanity law, relating to the management of State hospitals, abolishing the boards of managers and creating broards of visitation therefor, and extending the powers and duties of the State Commission in Lunacy." Introduced January 6th, and referred to the Judiciary Committee. This bill abolishes the local boards of managers of State institutions for the insane, and centralizes all admin-

istration in the State Commission in Lunacy. It creates boards of visitation for the State hospitals, with powers of inspection and recommendation. This measure thus places the former administrative authority of the local boards in the central commission, and transfers the supervisory power of the central commission, for which purpose it was created, to local boards of visitation. This bill opens the way for political control of State institutions, and is probably the most pernicious measure relating to these institutions which has ever been introduced in the Legislature. Has been passed.

Senate Bill No. 64. Introduced by Mr. Brackett. An Act "Regulating and legalizing the practice of osteopathy in the State of New York and fixing penalties for the violation thereof." Killed.

Assembly Bill No. 129. Introduced by Mr. Nye. An Act "To amend the public health law, relating to the practice of pharmacy by physicians and surgeons." This provides that a regularly licensed and practicing physician and surgeon who owns and conducts a drug store in connection with his practice, shall be entitled to a license as a pharmacist or druggist.

Assembly Bill No. 155. Introduced by Mr. Oxford. An Act "To amend an act, entitled 'An act to revise, amend and consolidate the general acts relating to public instruction, known as the consolidated school law, relative to teaching physiology, hygiene and narcotics.'" Introduced January 10th and referred to the Committee on Public Education.

Senate Bill No. 115. Introduced by Mr. Slater. An Act "To prevent the adulteration of and deception in the sale of drugs, chemicals and other substances." Introduced January 13th, read twice and referred to the Committee of Public Health. This bill makes it a misdemeanor, subject to a fine of twenty-five dollars, for any person, firm or corporation to prepare or sell an adulterated or altered drug that differs from the standard strength, quality or purity established by the last edition of the United States Pharmacopœia.

Senate Bill No. 207. Introduced by Mr. Davis, January 20, 1902, and referred to Committee on Finance. Assembly Bill No. 310. Introduced by Mr. Fisher, January 21, 1901, and referred to the Committee on Public Health. An Act "To amend chapter four hundred and sixteen of the laws of nineteen hundred, entitled 'An act to establish a State hospital in some suitable location in the Adirondacks for the treatment of incipient pulmonary tuberculosis, and making an appropriation therefor,' in relation to the

reception and maintenance of free patients." The object of this amendment is to provide for the return to their place of residence of patients who are found not to be suffering from incipient tuberculosis, or are suffering from an advanced stage of pulmonary tuberculosis where no benefit could be derived from the hospital. The expense of transportation to and from the hospital shall be paid by the local authorities, who sent the patient. The bill further provides that the local authorities shall pay the comptroller for the examination, care, treatment and maintenance of patients unable to do so. The rate is not to exceed five dollars a week.

Senate Bill No. 209. Introduced by Mr. Marshall, January 21, 1902, and referred to the Committee on Public Health. An Act "To preserve the public health and to prevent accident and mistake in handling the poison."

This bill looks as if it was framed to promote the interests of some inventor of a patent poison bottle.

Senate Bill 242. Introduced by Mr. Davis, January 22, 1902, and referred to the Committee on Finance. This bill passed the Senate, February 7th. An Act "Making a reappropriation of money heretofore appropriated for establishing a State hospital for the treatment of incipient pulmonary tuberculosis."

This reappropriates the sum of fifty thousand dollars, which was allowed in nineteen hundred, for the purpose of purchasing a site and of erecting, constructing and equipping a State hospital for the treatment of incipient pulmonary tuberculosis.

Senate Bill No. 297. Introduced by Mr. Slater on January 28, 1902. and referred to Committee on Agriculture. Assembly Bill No. 528. Introduced by Mr. Graeff. An Act "To amend the agricultural law, in relation to acids and other harmful substances in food products." This act prohibits the addition of any substance containing formaldehyde, salicylic acid, or other harmful substance to any dairy or other food product.

Assembly Bill No. 450. Introduced by Mr. Brill, January 29, 1902, and referred to the Committee on Public Health. An Act "To amend the public health law, relating to local boards of health." The term of office for members of the boards of health in towns shall be two years instead of one.

Assembly Bill No. 630. Introduced by Mr. Fancher, February 5, 1902, and referred to the Committee on Public Health. An Act "To amend the public health law, relative to the sale of certain drugs in original packages, by merchants and retail dealers." This is to allow merchants and retail dealers to sell carbolic acid, laud-

anum, spirits of nitre and quinine in original packages labelled and put up by a regularly licensed pharmacist. This bill is a step backward—not forward.

Assembly Bill No. 653. Introduced by the Committee on Public Health, February 5, 1902. An Act "To amend the public health law, relative to admission to examination in certain medical studies." This bill was introduced at the instigation of the Board of Regents and the Medical Society of the State of New York. It allows as the equivalent of the first year of the four years' prescribed medical course, evidence of graduation from a registered college course. The regents can also admit applicants nineteen years of age to the preliminary examination in anatomy, physiology, hygiene and chemistry.

Assembly Bill No. 612. Introduced by Mr. McCullough, February 5, 1902, and referred to the Committee on Public Health. An Act "To amend the public health law, and the acts amendatory thereof, in relation to the practice of dentistry." This is to allow men who have practiced dentistry for five years prior to August 1, 1895, to receive a license from the Board of Regents. A bill similar in many respects was introduced in the Senate by Mr. Wilcox on January 16th. These bills are probably introduced for the benefit of certain individuals who have not the necessary educational attainments required in the old law.

Senate Bill No. 428. Introduced by Mr. McCabe, February 10, 1902, and referred to the Committee on Public Health. An Act "To amend section two hundred, chapter six hundred and sixty-one of the laws of eighteen hundred and ninety-three, authorizing and empowering the State Board of Health and local boards of health to require vaccination or re-vaccination." This bill, which will receive great opposition from anti-vaccinationists, repeals the existing law—which, by the way, is excellent if enforced—provides as follows: The board of health of each city or town shall furnish the means of vaccination or re-vaccination to all inhabitants, and shall require and enforce such vaccination or re-vaccination whenever in their opinion the public health and safety require such action. Pupils or students cannot be admitted in any seminary, college or university without the certificate of a registered physician to the effect that he has successfully vaccinated the applicant within five years or twice vaccinated without success. Inmates of almhouses, prisons, jails, etc., are to be vaccinated or revaccinated when the local board of health demands it. No person can be enlisted in the National Guard who has not been suc-

cessfully vaccinated within a period of five years. No person or corporation employing ten or more persons can have in their employ any person without a physician's certificate of vaccination. All persons and laborers engaged in the performance of public or municipal work must be able to show a certificate of vaccination. Any violation of the preceding paragraphs is punishable by a fine of not less than fifty or more than one hundred dollars.

A NEW VACCINATION BILL has been drawn up to replace the compulsory vaccination bill which has passed the senate of the New York State Legislature. Dr. Ernst J. Lederle, City Commissioner of Health; Dr. Daniel Lewis, State Commissioner of Health, and Dr. E. Eliot Harris, chairman of the Committee on Legislation of the State Medical Association, after a conference on March 3d, agreed that the compulsory vaccination bill was an unnecessary measure, and that the present law relating to vaccination practically gave to the health authorities in the State sufficient power in dealing with smallpox cases, except in one or two respects.

THE NEW STATE CHARITIES BILL, introduced early in the session, as finally modified and passed, provides:

First—The Governor of the State shall appoint a superintendent, under whose direct supervision the institutions will be managed, and who will receive a salary of $4,000 per year, with $1,500 for expenses.

Second—The superintendent is empowered to appoint a superintendent and steward of each institution and to exercise a general supervision over them.

Third—The superintendent of each institution is vested with power to appoint the subordinates of the institution, and is held responsible for the manner in which the institution is conducted.

Fourth—The steward is made the purchasing agent of the institution he is connected with, subject to regulations to be prescribed by the State Board of Charities.

Fifth—A State Improvement Commission, composed of the State Comptroller and the President of the State Board of Charities, is created. This commission is to have the power to ratify or reject plans for new buildings for and improvements to institutions, and no new buildings or improvements can be recommended to the Legislature for appropriations without the consent of the State commission.

Sixth—The power of estimate for supplies is taken from the

State Comptroller and reposed in the Superintendent of Institutions. He is charged to inaugurate a system of purchase in bulk, such as now is in operation in the State hospitals for the insane.

Seventh—Local boards of managers retain the power of visitation and inspection of the institutions which they have heretofore managed. They are to be subject to the control of the State Board of Charities, and may be called upon at any time to investigate complaints and to make reports on the condition and needs of the institution.

Eighth—The State Board of Charities retains the power of visitation and inspection which it now exercises, under the constitution and the State charities law, but the power of passing on plans for the improvement is taken from it and reposed in the State Improvement Commission, composed of the Governor, the Comptroller, and the President of the State Board of Charities.

Ninth—While the power of passing upon estimates for supplies is taken from the State Comptroller, he still retains the power of auditing all bills for the expenditure of public moneys in behalf of the institutions.

The bill provides for the appointment of a fiscal supervisor, who shall receive $6,000 per annum, and who shall be the purchasing and fiscal agent for all the charitable institutions.

FOR UNITED STATES HEALTH SERVICE.

WASHINGTON, March 13.—At a hearing of the House Committee on Interstate and Foreign Commerce, this morning, the question of a national health service appears to have been agreed upon in favor of the Hepburn bill. The conference consisted of Dr. Walter Wyman, Surgeon-General of the Marine Hospital Service; Dr. H. L. E. Johnson, chairman of the Committee on National Legislation of the American Medical Association; Dr. H. M. Bracken, president of the State Board of Health of Minnesota; Dr. William Welsh, president of the State Board of Health of Maryland, and Dr. Edmond Souchon, president of the Louisiana State Board of Health. The visiting representatives informed the committee that the various State and Territorial boards of health, at a meeting held the day before in the Metropolitan Hotel, had agreed with Dr. Wyman, of the Marine Hospital Service, upon an arrangement which would be satisfactory to all parties concerned, and with this brief statement submitted an amendment to the Hepburn bill, which will make it acceptable to all concerned.

The same representatives were to appear before the Senate Committee of Interstate and Foreign Commerce, to make a similar statement.

There now remains no longer any opposition to the Hepburn bill, as printed in our February number, of which the Perkins bill is a counterpart, amended, and the probabilities are that the needful legislation on this long-pending subject will be effected at the present session.

PROPOSED INCREASE OF MEDICAL CORPS OF NAVY.

Recommendation has been made by Surgeon-General Rixey, of the navy, that the Medical Corps of the navy be increased by forty medical officers, this increase to be made by the addition of fifteen surgeons and twenty-five assistant surgeons. Owing to the increase in the size of the navy, the greater number of ships in commission and the large amount of time lost by medical officers in changing station between the United States and the Philippines and other outlying stations, Surgeon-General Rixey finds considerable difficulty in furnishing proper medical attendance. He believes that the addition should affect the higher as well as the lower grades, and points out that the senior passed assistant surgeon has been in the service for twelve years. His recommendations have been approved by the Secretary of the Navy and forwarded by him to Congress, with the recommendation that the necessary legislation be enacted.

ALCOHOL A DANGEROUS FOOD.

"We believe" (writes "The Journal of the American Medical Association") "that the consensus of the best medical opinion of to-day is that alcohol, while a valuable medicine in some conditions —and here many would include a limited dietetic value—is not properly a food. It is not what the Germans call a *Nahrungsmittel,* but is a luxury and a perfectly non-essential one to the healthy normal individual. The need of moderation in the use of alcohol and the difficulty in drawing the line between moderation and excess, together with the habit-building tendency, have all to be considered. The worst thing about the present tendency to say a good word for alcohol, is the certainty that whatever may be said will be utilized unscrupulously by advocates of the liquor interest. Give them an inch and they will take a mile, and some of our confrères have had good reason to regret this fact. We believe it

will be found far safer for medical men to stand on the facts opposing the general use of alcohol than to even qualifiedly advocate its usage, except exclusively as a medicine and under medical prescription. Its cause is not one that requires any fostering by our profession."

THE PASSING OF THE CORSET.

"Something has happened," says the "New York Medical Journal," "that physicians had hardly dared to hope for—that is to say, it has virtually happened, for the 'Greek girdle' now largely worn is so narrow that it cannot be injuriously tightened without causing the person to bulge so above it as to make the appearance of the individual ridiculous, and we may trust women to avoid that. We physicians do not flatter ourselves that our arguments have contributed materially to bring about this auspicious change; fashion has done it, and we hope the present fashion will hold sway long enough to convince women that they are more comfortable and more shapely under it than when they were girt with strait stays."

NEW CURES FOR CONSUMPTION.

It is reported ("Medical Record") from Cracow that an engineer of that town has discovered a gas which he calls "electroid," and which he claims is inimical to the bacilli of tuberculosis. It is stated that several Polish physicians are prescribing the gas by inhalation, the séances lasting from one to fifteen minutes, and claim to have had excellent results, in combating the symptoms at least, if not in actually arresting the morbid process. In London, experiments are being carried on at the Brompton Hospital for Consumption in the treatment of phthisis by means of Tesla's high-frequency currents and the intravenous injection of a bacillicide. Dr. Symes-Thomson, in a recent lecture, said that favorable results have been observed to follow this treatment, and he spoke hopefully of the final extinction of the disease by means of this and other modern methods of treatment.

THE EFFICACY OF VACCINATION.

According to Dr. J. E. Laberge, of the Contagious Diseases Hospital, Montreal, the efficacy of vaccination as a preventive of smallpox has been abundantly proven within the last year in that city. Since May last there have been in the City of Montreal Contagious Diseases Hospital 240 cases of smallpox, and in no instance had a single patient been vaccinated. In addition to these

there was a staff of eighteen persons, physicians and nurses, who for these months have been in daily and hourly contact with these smallpox patients, but not one of them has ever contracted the disease. The order issued to municipalities throughout the province of Quebec has been fairly well obeyed, and three hundred and forty-seven municipalities have so far adopted the prescribed by-laws with regard to general vaccination with its accompanying fines for non-fulfillment of same.

INSANITY INCREASING IN ONTARIO.

The Inspector of Insane Asylums in Ontario has reported to the government that on September 30 last there were resident in the asylums of the province no less than 4,604 patients. In 1890 the number was 3,318. The respective population of the various asylums of the province is as follows: Toronto, 724; London, 1,034; Kingston, 509; Hamilton, 1,029; Mimico, 605; Brockville, 613. In comparing the relative increase of insanity with the increase in population since 1861, the report states that in that year there were in the province 1,631 lunatics in government institutions, and that the total population was 1,396,091, while in 1901 there were insane, and idiots, to the amount of 5,880, when the population was 2,182,942. The population has increased in forty years at the rate of 56 per cent., while the insane and idiotic officially known have increased at the rate of 260 per cent. The ratio of insane to population in 1861 was as one to 856; in 1901, as one to 371.

BATTLE CREEK SANITARIUM BURNED.

The Battle Creek Sanitarium, with its five-story hospital, annexes, and conservatories, was burned just before daylight, February 18. More than 350 patients and 100 physicians, nurses and servants were sleeping in the building, but thanks to the presence of mind of the employees, and the excellent fire escapes, only one death resulted. The property loss will be about $500,000, on which there is about $100,000 insurance. It is proposed to rebuild immediately.

$1,000 AND $500 PRIZES.

Generous as are these offers by the Maltine Company for the best and next best essays, respectively, on "Preventive Medicine," as we intended to announce in March number, our printer inadvertently exaggerated the amount of the second prize to "five thousand dollars." It should be borne in mind that the essays in com-

petition must be sent to the Maltine Company, Eighth avenue and Eighteenth street, Brooklyn, by September 1, 1902.

THE EDDYOPATHS AND OSTEOPATHS.

The tangle as to the legal status of the osteopathic and Eddyopathic practitioners in different States ("American Medicine"), grows greater every day. In Kansas City, Mo., an Eddyite healer who failed to report a case of diphtheria was discharged because the Court held that she was not a physician, and therefore not amenable under the ordinance. In Des Moines, Ia., a judge has ruled that the State Board of Medical Examiners must grant a certificate to practise osteopathy to a graduate of the Still College of Osteopathy at Des Moines. This is an absurd decision, and should be reversed by the Supreme Court. The Supreme Court of Illinois has just decided that osteopathy is the practice of medicine, as defined by the statutes of that State. This decision is in harmony with similar decisions in Nebraska and Massachusetts. In Ohio the laws permit the practice of osteopathy, but the decision in general harmonizes with that in the Illinois case. The wording of the Illinois act is as follows:

"Any person shall be regarded as practising medicine, within the meaning of this act, who shall treat or profess to treat, operate on or prescribe for any physical ailment or any physical injury to or deformity of another. *Provided*, that nothing in this section shall be construed to apply to the administration of domestic or family remedies in cases of emergency, or to the laws regulating the practice of dentistry or of pharmacy. And this act shall not apply to surgeons of the United States army, navy, or marine-hospital service in the discharge of their official duties, or to any person who ministers to or treats the sick or suffering by mental or spiritual means, without the use of any drug or material remedy."

In the Illinois decision the Court emphasized the fact that the osteopath does not use drugs or any other material remedy, nor does he treat the sick by mental or spiritual means, and that, therefore, the use of the word *material* has no significance. The duty is plain that when the statutes do not make it clear as to what constitutes the practice of medicine then new laws or amendments should be passed to settle all doubts.. Beyond all question the osteopath and Eddyite are aiming to practise medicine, and to do so without the trouble and expense of learning the science and art of medicine. And they are equally desirous of avoiding the responsibility of their ignorance in causing death, etc. The double fraud must not be permitted.

MORTALITY AND MORBIDITY REPORTS AND REVIEWS.

NEW YORK.—Bulletin of State Department of Health for January, 1902: Population, 7,467,050; deaths, 10,968; death rate, 17.3; deaths under five years, 2,933; at seventy years and over, 2,015; from zymotic diseases per 1,000 from all causes, 103; cerebro-spinal meningitis, 48; typhoid fever, 146; malarial diseases, 16; smallpox, 39; scarlet fever, 141; measles, 132; erysipelas, 42; whooping cough, 58; croup and diphtheria, 320; diarrhœal diseases, 188; acute respiratory diseases, 2,274; consumption, 1,038; puerperal diseases, 99; diseases of the digestive organs (not diarrhœal), 645; of the urinary system, 853; circulatory system, 1,234; nervous system, 1,103; cancer, 384; old age, 500; unclassified, 1,260.

City of New York, 3,632,501; deaths, 6,289; death rate, 20.5; deaths under five years, 2,619; from zymotic diseases per 1,000 from all causes, 122; cerebro-spinal fever, 24; typhoid fever, 51; malarial diseases, 10; smallpox, 35; scarlet fever, 115; measles, 106; croup and diphtheria, 210; acute respiratory diseases, 1,604; consumption, 613; cancer, 180.

Borough of Manhattan, 1,895,491; deaths, 3,519; death rate, 21.8; deaths under five, 1,305; zymotic diseases per 1,000 from all causes, 122; typhoid fever, 23; scarlet fever, 65; measles, 68; whooping cough, 24; smallpox, 2; croup and diphtheria, 104; acute respiratory diseases, 917; consumption, 301; cancer, 97.

Borough of the Bronx, 244,141; deaths, 477; death rate, 23.0; deaths under five, 136; from zymotic diseases per 1,000 from all causes, 200; smallpox, 33 (smallpox hospital in this borough); scarlet fever, 17; measles, 19; croup and diphtheria, 18; acute respiratory diseases, 93; consumption, 111; cancer, 19.

Borough of Brooklyn, 1,249,650; deaths, 2,002; death rate, 19.4; deaths under five, 605; deaths from zymotic diseases per 1,000 from all causes, 110; typhoid fever, 25; smallpox, (?); croup and diphtheria, 79; acute respiratory diseases, 516; consumption, 179; cancer, 58.

Borough of Queens, 172,472; deaths, 199; death rate, 13.6; deaths under five, 54; from zymotic diseases per 1,000 from all causes, 60; croup and diphtheria, 6; acute respiratory diseases, 52; consumption, 15; cancer, 3.

Borough of Richmond, 70,747; deaths, 92; death rate, 15.6;

deaths under five, 19; from zymotic diseases per 1,000 from all causes, 87; acute respiratory diseases, 26; consumption, 7; cancer, 3.

Albany, 94,151; deaths, 40; death rate, 17.5; deaths under five, 16; from zymotic diseases per 1,000 from all causes, 85; acute respiratory diseases, 18; consumption, 20; cancer, 6.

Syracuse, 108,374; deaths, 134; death rate, 14.5; under five years, 15; from zymotic diseases per 1,000 from all causes, 45; acute respiratory diseases, 10; consumption, 15; cancer, 11.

Buffalo, 352,387; deaths, 381; death rate, 13.0; deaths under five, 107; from zymotic diseases per 1,000 from all causes, 126; from acute respiratory diseases, 53; consumption, 38; cancer, 8.

Rochester, 162,608; deaths, 179; death rate, 13.0; deaths under five, 29; from zymotic diseases per 1,000 from all causes, 110; from acute respiratory diseases, 24; consumption, 29; cancer, 9.

Of *Smallpox:* There are at this time 34 cases at twelve points in the Adirondacks; 8 cases at five points in the southwest region of the State; at Binghamton and Plattsburg, each probably 12 cases; and at four or five scattered localities single imported cases —making 70 cases in the State, not including Buffalo, where reports indicate now about 30 cases. There are 100 cases of smallpox now in the State at twenty-five localities outside of New York City. Of the 39 deaths, 35 occurred in New York City, and 1 each at Buffalo, Binghamton, Ossian and Mount Vernon.

Of the January mortality, *Grippe* caused probably 1,500 deaths, the average of the past five years in this month—the mortality from all causes and from Acute Respiratory diseases being just that of the average for that period. It probably caused about half as many in December when the current epidemic commenced, viz., 750 deaths.

Pneumonia is reported as causing 1,334 deaths, or 60 per cent. of the deaths from Acute Respiratory diseases. *Bright's disease* (N. Y. city not included) caused 224 deaths, of 270 reported as from diseases of the urinary system.

Scarlet fever and measles exceed the average, but chiefly of the Maritime district; other zymotic diseases, save smallpox, are at the normal.

CALIFORNIA.—San Francisco, 360,000. Report for January: Deaths, 749; death rate, 24.96; deaths under five, 121; deaths from specific diseases, 58—from diphtheria, 28; consumption, 106; other respiratory diseases, 130; cancer, 37; typhoid fever, 9.

COLORADO NOT AVERSE TO CONSUMPTIVES.—Owing to the fact that repeated statements have been made that Colorado has seriously considered quarantining against consumptives, it is deemed but just and fair that the following statement, by past or present officers of the State Board of Health and State Medical Society, be published:

We hereby certify on our honor as professional gentlemen:

1. That so far as we are aware, no member of the Colorado State Board of Health ever proposed the subject of preventing tuberculous persons from entering the State.

2. That so far as we are aware, no member of the legislative or executive branch of the State of Colorado ever suggested such a course.

3. That there is no law to that effect on the statute books of the State of Colorado, nor so far as we know has any such law ever been suggested by any responsible citizen of the State.

4. That so far as can be ascertained, there does not now exist, nor has there ever existed, any ordinance to that effect in any city or town in Colorado, nor has there been any suggestion by those in authority, or by any responsible citizen, that such an ordinance be passed.

5. That so far as we can learn, there does not now exist, nor has there ever existed, any regulation of any board of health in the State of Colorado covering the subject of quarantining against consumptives, nor has any such regulation been suggested by any responsible citizen of the State.

6. That on the contrary, in February, 1900, the Colorado State Board of Health issued a circular containing the following: "That this climate has saved the lives of many who have come early can not be doubted. There is no need to talk of quarantining against consumption. Such a course is both unnecessary and impracticable. Doubtless, many persons with advanced tuberculosis should not be sent here, but for those who can be benefited by coming, Colorado should have nothing but a warm welcome."

7. That we know of no proposition of the sort mentioned by any one in Colorado, and that all of us who sign this paper have held responsible sanitary positions, and that we have persistently and constantly stated that no such measures are necessary.

(Signed) Drs. G. E. Tyler, Hubert Work, J. N. Hall, Henry Sewall, L. E. Lemon, Wm. P. Munn, Leonard Freeman, A. A. Clough, and W. H. Campbell.

CONNECTICUT.—State Board Bulletin for February: Deaths, 1,124, 48 less than in January and 265 less than in February of last year, and 76 less than the average number of deaths in February for the five years preceding.

The death rate was 14.9 for the large towns, for the small towns 14.6, and for the whole State 14.8.

The deaths reported from infectious diseases were 194, being 17.2 per cent. of the total mortality.

"*Smallpox.*—During the calendar year, 1901, 78 cases of smallpox were reported in Connecticut. These were distributed through 15 towns. During the year 1902 up to the present date, there have been reported 47 cases, making a total of 125 cases during the last 14½ months. Of the 125 cases thus far only 8 have proved fatal, being a death rate of between 6 and 7 per cent. only. The cases of the present year have occurred in 14 different towns. The 125 cases have been distributed among 24 different towns in the State. There is no fact in science better established, by an experience of one hundred years in every civilized country, than the fact, that vaccination scientifically practiced is a safe and sure preventive of smallpox.

"An epidemic of smallpox has never occurred in a well vaccinated community. Vaccination should be performed in infancy, a re-vaccination at the age of 12 or 14 and subsequent vaccinations whenever an individual is exposed, or as in the present instance when an epidemic is prevailing."

DISTRICT OF COLUMBIA.—278,880. Report for the week ending March 12: In the previous week 113 and in the corresponding week of last year 138. Of the decedents in the past week 69 were white, representing a death rate of 17.7 and 37 colored; death rate, 21.4. The death rate total was 18.8 per 1,000 of population, as compared with 25.75 in the corresponding week of last year. There was a decrease in mortality last week from affections of the heart from 13 to 7; of the kidneys from 13 to 7; and consumption, 13 to 8. From apoplexy there was an increase from 4 to 8; from disorders of the brain and nervous system, 7 to 15. There were 3 fatal cases of typhoid fever and 4 of grippe.

Of *smallpox* there were 11 cases in the hospital at the close of last report. During the week this number was increased by 3, and 3 being discharged, left 11 cases in the hospital. Of *diphtheria* there were 20 cases in quarantine at the close of the last report.

During the week 5 new cases developed and 9 were discharged, leaving 16 cases under observation in 14 premises.

At the close of last report there were 31 cases of scarlet fever in quarantine. During the week 10 new cases occurred, and 6 having been discharged, left 35 cases with warning cards in 24 premises.

ILLINOIS.—Chicago, 1,758,025: Bulletin for the week ending March 8, 1902.

Between February 1 and March 8 the water from the Lake View tunnel averaged 100 per cent. good or usable; that from the four-mile tunnel, 99.8 per cent.; from the Carter Harrison and the Chicago avenue tunnels, 93.3; while the Hyde Park supply was only 56.6 per cent. good or usable during these thirty-six days, and on more than one occasion it was positively poisonous.

Last week's death rate fell to nearly the Chicago normal for the season of the year. The 514 deaths recorded—120 fewer than during the previous week—furnish an annual rate of 14.72 per 1,000, instead of the 18.15 of the week of March 1. This is a decrease of 18.8 per cent., and is only 4 per cent. higher than in the corresponding week of last year. Except diphtheria, all the principal causes of death show a marked reduction. There is a 12.5 per cent. increase of diphtheria mortality since February 1 over the January mortality this year, and the Commissioner is making increased effort to secure the prompt use of the diphtheria antitoxin on this account.

INDIANA.—The monthly reports to the State Board of Health for February show that smallpox was the most prevalent disease and pneumonia the second most prevalent. Pneumonia was fifth in January, bronchitis being second that month. The order of disease prevalence in February was: Smallpox, pneumonia, bronchitis, influenza, rheumatism, tonsillitis, pleuritis, measles, scarlet fever, diarrhœa, typhoid fever, diphtheria, erysipelas, whooping cough, puerperal fever, cerebro-spinal meningitis, cholera morbus, cholera infantum. There were 758 cases of smallpox reported in 36 counties and three deaths. In the corresponding month last year there were 165 cases in 15 counties and two deaths. The increase in deaths from smallpox was 50 per cent. and the increase in cases 176 per cent. The area of infection increased 140 per cent. The smallpox deaths occurred one in Cass, one in Pulaski and one in Shelby County. *Deaths* from all causes numbered 2,874; rate, 14.8. In the corresponding month last year there were 3,350

deaths, rate 17.3. This was, therefore, in this comparison, a reduction of 476 in the number of deaths and 2.5 in the rate; 14.6 per cent., or 395 of the total deaths, were infants under one year of age, and 29.3 per cent., or 792, were 65 and over. Pneumonia heads the list with 512 deaths, and other important causes of death come in the following order: Consumption, 337; violence, 119; diphtheria, 26; cerebro-spinal meningitis, 21; scarlet fever, 19; diarrhœal diseases, 13; whooping cough, 12. The total number of deaths in the *cities* was 1,148; rate, 17.3; in the *country*, 1,726; rate, 13.5. The death rates for all diseases, pneumonia excepted, were higher in the cities than in the country.

KANSAS.—The Secretary of the State Board reports *smallpox* for the month of February in thirty-five localities, an aggregate of 423 cases—no deaths.

LOUISIANA.—New Orleans, 305,000 (81,500 colored). Report for February: Total deaths, 590 (212 colored); death rates, white, 20.29; colored, 31.21; 23.21; deaths under five years, 141 (55 colored); from typhoid fever, 4; influenza, 18; scarlet fever, 3; croup and diphtheria, 3; consumption, 65 (34 colored); cancer, 16.

Hygiene Among the Negroes.

It is gratifying to notice ("Times-Democrat," 15th ult.) a meeting of a number of prominent negro preachers and other leaders of the race, held March 12th, for the purpose of conferring over the large death rate of the negroes and seeing what can be done to lessen it. The negro mortality, which is double that of the whites, swells the total death rate so that New Orleans appears before the world in a less favorable light than it deserves in the official figures. The white mortality here is well below the average for the country; and for a white man New Orleans is healthier than Boston, New York, Philadelphia or other large Northern cities; but the official figures, which give the mortality for all, negroes as well as whites, are high and make New Orleans appear unhealthy. It is true that this is easily explained away, as the negro meeting at Wesley Chapel, Wednesday, explained. With eighty thousand negroes, most of whom are living in defiance of every law of hygiene, amid unsanitary surroundings, on improper food and without medical attendance or treatment, it is inevitable that there should be a heavy death rate. But it is not desirable or, indeed, possible to make these explanations, and the official figures

that go out in the census and in the reports as vital statistics present New Orleans in an unfavorable light.

Moreover, the presence here of a large population which violates all sanitary laws is a menace to all, since it is natural that disease should lurk amid the unsanitary negro quarters.

It will be seen, therefore, that the whites are interested in this movement to improve the sanitary condition of the negroes, and should give it their assistance, as the latter can hope to accomplish very little by themselves.

The programme outlined at the meeting is a good one. It includes a course of lectures on sanitary subjects addressed directly to the negroes, showing them what they ought to do and ought not to do in order to insure good health. But experience has warned us from similar movements on the part of the negroes in the past that they will secure but little benefit if they undertake this campaign without guidance or assistance, and in this most important matter of sanitation they have far too little assistance. The Southern States and cities have provided for their schools and even for their higher education, but have given little toward instructing them in the laws of hygiene; and Northern charity or philanthropy has been generous in all educational matters except this most important branch of education, which would teach the negroes how to care for themselves. Some fifteen hundred lives are sacrificed in New Orleans each year from lack of sanitary knowledge, and the loss throughout the South must run up into the tens of thousands annually. There is perhaps no branch of knowledge in which the negro is more lacking than this, for his schooling is of but little advantage to him if ill health produced by insanitation renders him incapable of work, or death caused by a violation of the laws of hygiene carries him off in his prime when he should be doing his best work. The negro leaders see this and are trying to remedy the defect, but it must be frankly admitted they are getting less assistance than their efforts deserve.

The health records of the white population of New Orleans show that if the negroes took the same care of themselves their condition would be as good and their sick and death rate as low if not lower than those of the overcrowded working classes in the Northern cities, instead of the number of their sick or dying being relatively twice as great.

MAINE.—The Secretary of the State Board, through the "Sanitary Inspector" for January, admonishes "some of the local boards

of health for having become extremely negligent in reporting outbreaks of infectious diseases to the State Board, while others make their reports with commendable promptness."

At the present date, January 30, there are no cases of smallpox in Maine save one case in Portland and six convalescents in Bangor to be discharged from quarantine soon. These are carefully isolated. In December there were two cases in Bath, and Biddeford has recently cleaned up after an outbreak which occurred in a bad place, but which the local board limited to two cases. Maine is still fortunate, but there is too much smallpox around in all directions to make it safe for health officers or physicians to relax their vigilance.

MASSACHUSETTS.—Boston, 573,579. Report for December, 1901: Deaths, 903, 231 under five years. Death rate, 18.89. Deaths from typhoid fever, 17; smallpox, 40; measles, 11; scarlatina, 12; diphtheria and croup, 23; tubercle of the lungs, 92; pneumonia, 65; broncho-pneumonia, 48; bronchitis, 26; cancer, 25.

Summary of deaths in Boston for 1901, compared with those of 1900:

Total deaths, 1901, 11,300; 1900, 11,678.
Population estimated, 1901, 573,579; census, 1900, 560,892.
Annual death rate, 1901, 19.70; 1900, 20.82.
Deaths from zymotic diseases, 1901, 3,494; 1900, 3,787.
Still births, 1901, 576; 1900, 578.
Deaths under 5 years, 1901, 646; 1900, 661.
Deaths from diarrhœal diseases, 1901, 725; 1900, 762.
Cholera infantum, 1901, 210; 1900, 299.
Diphtheria and croup, 1901, 353; 1900, 537.
Influenza, 1901, 166; 1900, 215.
Measles, 1901, 103; 1900, 83.
Tuberculosis, 1901, 1,346; 1900, 1,407.
Scarlatina, 1901, 210; 1900, 181.
Typhoid fever, 1901, 142; 1900, 143.
Whooping cough, 1901, 65; 1900, 99.
Smallpox, 1901, 75; 1900, —.
Cancer, 1901, 368; 1900, 452.
Bright's disease, 1901, 123; 1900, 142.
Bronchitis, 1901, 301; 1900, 304.
Heart disease, 1901, 963; 1900, 1,241.
Pneumonia, 1901, 1,099; 1900, 1,241.
Old age, 1901, 323; 1900, 315.
Violent deaths, 1901, 671; 1900, 561.

MICHIGAN.—The Secretary of the State Board reports for February, 1902, compared with the preceding month, meningitis was more prevalent, and typhoid fever and diphtheria were less prevalent. Compared with the average for February in the 10 years, 1892-1901, scarlet fever, measles and smallpox were more than usually prevalent; and consumption, erysipelas, remittent fever, and diphtheria were less than usually prevalent.

Meningitis was reported present during the month of February, 1902, at 14 places; whooping cough at 37 places; diphtheria at 62 places; typhoid fever at 89 places; measles at 113 places; scarlet fever at 216 places; consumption at 226 places, and smallpox at 232 places. Meningitis at 5 places more; whooping cough at 8 places less; diphtheria at 6 places less; typhoid fever at 11 places less; measles at 15 places more; scarlet fever at 21 places less; consumption at 6 places less, and smallpox at 23 places more, in the month of February than in the preceding month.

Since the first of January, 1901, *outbreaks of smallpox* in 592 localities in Michigan have been caused to cease; and in 384, or 65 per cent. of those outbreaks, *the disease was restricted to the one household where the first case occurred.* Notwithstanding this record of effective work by the health services, State and local, the disease has continued to spread, because in the other outbreaks where the disease was not restricted to the first household it was first called "Cuban itch," "cedar itch," syphilis, chicken-pox, impetigo contagiosa, or acne, and not reported to the health officer so that restrictive measures could be taken; in a very few instances the fault has been with the health officer himself. Because of such lack of proper reports, or proper action, smallpox continued to spread. It is now, March 12, present in 55 counties, at 140 places in Michigan, 3 places less than in the preceding week.

The number of deaths returned to the Department of State for the month of February was 2,665—160 less than for the preceding month. As February is a shorter month than January, the death rate, on the contrary, showed an increase from 13.5 to 14.0 per 1,000 population. There were 422 deaths of infants under 1 year; 150 deaths of children aged 1 to 4 years, and 897 deaths of elderly persons over 65 years. Deaths from tuberculosis of lungs, 152; other forms of tuberculosis, 21; typhoid fever, 38; diphtheria and croup, 38; scarlet fever, 20; measles, 16; whooping cough, 18; smallpox, 4; pneumonia, 369; meningitis, 45; influenza, 78; cancer, 114; accidents and violence, 100.

MINNESOTA.—St. Paul, 165,000. Report for January: Deaths, 136—32 under 5 years; death rate, 9.88; deaths from typhoid fever, 2; membranous croup, 1; diphtheria, 8; scarlet fever, 1; consumption, 18; bronchitis, 6; pneumonia, 18; cancer, 5.

MISSOURI.—St. Louis, 598,000. Report for January: Total deaths, 908—207 under 5 years; death rate, 18.21; from typhoid fever, 14; scarlet fever, 6; whooping cough, 6; smallpox, 5; croup and diphtheria, 14; consumption, 13; pneumonia, 115; other respiratory diseases, 75; cancer, 36.

Antitoxin Investigation Aftermath.

The logical results of the antitoxin investigation in St. Louis are now taking place. The city authorities have placed the responsibility upon Dr. Ravold, and his resignation followed immediately. There is no question of Dr. Ravold's ability as a bacteriologist, and it was unfortunate, to say the least, that the conditions in the city laboratory made such errors possible. The city should never have undertaken to make antitoxin without a thorough equipment. The bacteriologist was not an independent officer of the Board of Health, but was rated simply as an employe. Now it is proposed to establish the office of "City Bacteriologist," to which the appointee shall give his whole time. Following the conclusion of the investigating committee's work, suits for damages against the city are being instituted by the relatives of the dead children. One suit for $20,000 is now pending.

Finding of the Tetanus Court.

As a result of the investigation to fix the responsibility for the 13 deaths from tetanus following the injection of anti-diphtheric serum in St. Louis, the committee, consisting of the Board of Health and a committee from the city council, made the following report:

Pursuant to the resolution adopted by the Board of Health on November 25, 1901, in reference to investigating the responsibility of the Health Department as charged in the coroner's verdict in regard to the deaths from the use of diphtheria antitoxin, prepared and distributed gratuitously by the city, the board, after having made, jointly with a committee of the city council, a searching and complete investigation of the matter, does find:

1. That the diphtheria antitoxin heretofore issued by the city was prepared, bottled and distributed by and under the supervision of Dr. Amand Ravold, who was employed by the Health Commissioner, with the approval of the Board of Health, in 1894, as con-

sulting bacteriologist, and to have charge of the preparation and distribution of diphtheria antitoxin, and that he was responsible for the quality of material so prepared and distributed.

2. That a horse kept by the city under the supervision of Dr. Ravold, as a producer of diphtheria antitoxin serum, was bled by him September 29, 1901, and on October 2 was found to have tetanus and was killed.

3. From Dr. Amand Ravold's testimony the poisonous character of the serum from this bleeding of September 29 was known to him, but he failed to cause the serum to be destroyed.

4. That owing to this inexcusable negligence the poisonous serum was, in part, bottled and issued to physicians between October 10 and 23, with the deplorable results which instigated the coroner's investigation.

5. That the bottling of the serum proven to be poisonous was done by Henry Taylor, who was janitor of the City Chemist's office, and assistant, at the time, to Dr. Ravold in the work of preparing the serum for issuance.

6. That it does not appear that Henry Taylor was aware of the poisonous character of the serum at the time, but that his course is reprehensible in that he obscured and retarded the investigation by conflicting statements under oath.

In view of the foregoing finding, the board recommends that Dr. Amand Ravold and Henry Taylor be dismissed from the service of the Health Department. And the board further recommends that the city do not hereafter manufacture diphtheria antitoxin.

NEW JERSEY.—Hudson County (Jersey City and environs), 386,048. Report for December: Total deaths, 593—182 under 5 years; death rate, 18.4; deaths from smallpox, 19; croup and diphtheria, 25; all zymotic diseases, 68; consumption, 56; pneumonia, 110; bronchitis, 13.

Newark, 250,000. Weekly reports February 4 to March 8. For the week ending March 8: Deaths, 86; from specific infectious diseases, 16—3 from smallpox; from consumption, 8; pneumonia, 8; broncho-pneumonia, 5; bronchitis, 6; cancer, 1.

NORTH CAROLINA.—The State Board of Health Bulletin reports for January: Total deaths in 28 towns, with an aggregate population of 155,370 (62,200 colored); deaths, 219—104 colored; death rates, white, 147; colored, 201; 168; deaths under five years, 47; from pneumonia, 54; consumption, 24—11 colored.

OHIO.—Cleveland, 400,000. Report for January, 1902: Deaths, 450—73 under 5 years; death rate, 13.5; deaths from zymotic diseases, 100; scarlet fever, 4; diphtheria and croup, 20; typhoid fever, 14; tuberculosis, 36; bronchitis, 17; pneumonia, 41; broncho-pneumonia, 7; cancer, 21.

PENNSYLVANIA.—Philadelphia, 1,293,697. Reports for four weeks severally, ending March 1: For the fourth week, deaths, 592—176 under five years; from typhoid fever, 7; smallpox, 17; croup and diphtheria, 13; consumption, 60; pneumonia, 122; cancer, 16.

The cost of typhoid to Philadelphia is thus estimated by the engineer in charge of the construction of the filtration works of Philadelphia:

"I shall roughly estimate the financial loss to this city during the year 1900 from typhoid fever alone. The report of the Bureau of Health states the number of deaths from typhoid fever to be 449. Placing a valuation of $5,000 on each life, we have a loss to the city of $2,245,000. Other losses as follows: Burial expenses of 449 people, at $40, $17,960; 3,227 cases of typhoid fever requiring medical attention, at $30 a case, $96,810, and 83,340 days lost from employment, at $2 a day, $166,630, brings the grand total of $2,021,160 loss from the ravages of one disease for a single year. If this sum were to be expended as interest on a sinking fund at 5 per cent. for 30 years it would give to the people of this city a sum of $134,300,000 to expend in preventing typhoid fever alone."

Pittsburg, 346,000. Reports for four weeks severally, ending March 8: For the week ending March 8, deaths, 150—43 under 5 years; death rate, 22.5; from diphtheria and croup, 1; typhoid fever, 5; consumption, 19; pneumonia, 27; bronchitis, 6; cancer, 1.

WASHINGTON.—Seattle, 110,000. Report for January, 1902: Deaths, 72—9 under 5 years; death rate, 7.8; deaths from consumption, 7; pneumonia, 10; bronchitis, 2; heart disease, 9; alcoholism, 4; cancer, 5.

WISCONSIN.—Milwaukee, 300,000. Report for January, 1902: Deaths, 334—88 under 5 years; death rate, 12.74; deaths from consumption, 38; other tuberculosis diseases, 4; pneumonia, 30; broncho-pneumonia, 7; bronchitis, 15; diphtheria and croup, 4; typhoid fever, 3; measles, 2; cancer, 18.

HAVANA.—271,363—72,492 colored. W. C. Gorgas, Major and Surgeon U. S. Army, Chief Sanitary Officer, reports for Jan-

uary, 1902, of infectious and contagious diseases, tuberculosis is the only one that plays any important part in the death rate. There were 5 deaths from typhoid fever and 3 from diphtheria; no smallpox since July, 1900.

The first month of the year makes a most encouraging showing as to yellow fever. The average number of deaths from this disease since 1889, for the month of January, has been 14.50, while this January there has not been a death; for the four months, October, November, December and January, for the same period, the average has been 146.49, while for the past four months, not a death has occurred; for the ten months beginning April 1, for the same period, the average has been 457.18, while during for the past ten months only five deaths have occurred. Comparing conditions existing this January and last, we find that last January there was infection in every part of the city; this January Havana is wholly free from fever and has been so for the preceding four months. As no such condition has been even approximated in Havana before, we feel justified in saying that yellow fever has been eradicated from the city. We feel confident that the same measures that have freed the city from fever will keep it free during the coming year.

Believing that the disappearance of yellow fever is solely due to the war waged against the mosquito, this work is being kept up and pushed.

Work against tuberculosis is being actively pushed. Information as to the nature and care of this disease is being very generally spread among the people by lectures, printed matter, etc. 1,642 cases have been located within the city limits, their names and addresses carded and arranged for easy reference. Estimating the life of a tuberculosis patient at about three years, and multiplying the number of deaths (900) during the past year by three, we get 2,700 as the probable number of tuberculosis patients in the city at the present time. The average number of deaths per year since 1889 has been 1,555.09. Last year it was but 900, which points to a very hopeful outlook in this direction.

The scheme for a public sanatorium for these patients, approved by the Military Governor, is being pushed. The sanatorium is to be divided into two sections, in different locations. The one for incurables is to be located at Hospital No. 1, and buildings are now being equipped for this purpose. The other will be for curable patients, located some five miles out in the country. Negotiations are now under way for the purchase of a hundred acres of land

and work will be pushed as soon as a title can be secured. This will be a free sanatorium, no charge whatever being made against those unable to pay. The sanatorium is undertaken by the Sanitary Department on purely sanitary grounds with the idea of getting as many as possible of the infected poor out of the crowded tenement houses, particularly the bedridden poor, who are a great source of infection under the present conditions. This will no doubt be a great adjunct to other sanitary measures. But the principal dependence of the department will have to be the home care of the patient, and the constant teaching of patients and their friends the simple sanitary measures that will so certainly prevent the spread of the disease to those about the patient.

A summary of vital statistics for the year 1901 follows, chiefly with reference to yellow fever. Tabulated statistics show that for the past 45 years, with scarcely an exception, some deaths have occurred from yellow fever in every month of the year; that the maximum—2,058 deaths—occurred in 1857; the minimum, 51 deaths, occurred in 1866; average, 751.44. For the year 1901, in which the new system was adopted, there occurred only 18 deaths. And 12 of these 18 deaths occurred before the new system was put into effect. It is equally well established that yellow fever existed in just the same way, before the time covered by this table. We have pretty definite data warranting the belief that it has been endemic in Havana since the English occupation in 1762.

The army took charge of the Health Department of Havana when deaths were occurring at the rate of 21,252 per year. It gives it up with deaths occurring at the rate of 5,720 per year. It took charge with smallpox endemic for years. It gives it up with not a single case having occurred in the city for over eighteen months. It took charge with yellow fever endemic for two centuries, the relentless foe of every foreigner who came within Havana's borders—which he could not escape, and from whose attack he well knew that every fourth man must die. It found Havana feared as a thing unclean by all her neighbors of the United States, and quarantined against as too dangerous to touch, or even to come near anything that she had touched, to the untold financial loss of both Havana and the United States. It leaves, after careful study of the question of yellow fever by its officers, undeterred by personal risk—for several of the investigators have died of the disease, contracted at their work. It has established the fact that yellow fever is only transmitted by a certain species of mosquito, a discovery that, in its power for saving human life,

is only excelled by Jenner's great discovery, and as time goes on, it will stand in the same class as that great boon to mankind.

MANILA CONTENDING AGAINST PLAGUE.

The Health Department of Manila, P. I., is making comprehensive and commendable preparations to resist a possible outbreak of plague. Five to six hundred rats are captured daily, while numerous others are poisoned. Tents and ambulances are ready in the hands of the sanitary inspectors.

In December last Manila had 250,000 inhabitants, of whom 186,619 were natives, 51,567 Chinese, and 11,814 "Americans and others." That month there were 858 deaths, an annual rate of 40.53 per thousand. While that is no very terrible showing, as compared with other big cities in the tropical East, it is much more of an incitement to further efforts than a record at which to point with pride. Much light on the causes of the high mortality is cast, however, by the relative death rates among the three elements of the population. That for the Filipinos was 51.45, while that of the Chinese was only 6.62, and that of the Americans and others was 13.96. This does more than hint that the city even now is not particularly unhealthy for those who know how to take care of themselves and have the means and the inclination to do it. A very large number of the Filipinos live in nipa huts, often built in damp or marshy places, and the infant mortality in this part of the population is enormous. As sanitarians, the Cubans did not rank high, but there was among them no great mass of people living in a state only a little above that of utter savages. In Manila, too, it has not been the good fortune to find a cheap and comparatively easy means of conquering the most deadly of the local diseases. But if Havana has been the scene of a war on mosquitoes as the carriers of yellow fever, Manila is carrying on a campaign against rats on the theory that to them is due the distribution of the bubonic plague. Many thousands of the dangerous rodents have been trapped or poisoned, and of those examined about one in a hundred was infected. It was estimated in December that the lepers in the archipelago numbered 7,500, and preparations were making to segregate the unfortunates on the island of Kulion, twenty miles from Manila.

THE SMALLPOX EPIDEMIC IN LONDON.

The number of cases in hospital, on February 15, was 1,185,

against 870, 1,135 and 1,102 at the end of the three preceding weeks; 390 new cases were admitted during the week, against 204, 499 and 287 in the three preceding weeks. In the House of Commons, Mr. Walter Long, President of the Local Government Board, stated that the number of successful primary vaccinations were as follows: 1898, 500,314; 1899, 669,349; 1901, 677,625. The number of certificates granted to "conscientious objectors" (whereby the penalty for non-vaccination is avoided) were: 1898, 20,341; 1899, 32,345; 1900, 39,839; and for the first half of 1901, 19,252. In the House of Lords, Lord Newton brought in a bill to abolish the "conscientious objector." He pointed out that the legal recognition of this individual had caused 100,000 children to be unvaccinated in the last three years. The bill was defeated in consequence of the opposition of the government, who, while admitting the benefit of vaccination, were unwilling to disturb the compromise of the act of 1898.—From letter in "Journal American Medical Association."

THE LATEST CENSUS OF THE CITY OF LONDON shows that, exclusive of the outer belt of the metropolis, there are 4,556,541 inhabitants huddled in an area of 117 square miles. The metropolitan and city police districts combined contain, however, 6,580,000 inhabitants, occupying an area of 693 square miles. Greater New York covers 326 square miles, and its population is placed at 3.437,000.

UNIFORM SYSTEM FOR THE REGISTRATION OF MORTALITY STATISTICS.

The census office of the United States has made, for some time, efforts to remedy this state of affairs—and with a degree of success—but there still remains the geater part of the work to be accomplished ere complete order be evolved out of partial chaos.

The Committee on Demography and Statistics in their Sanitary Relation to the American Public Health Association, at their recent meeting, decided to take up the subject, and thereupon the census office determined that its wisest course would be to cooperate with this body.

The committee has published a paper in which are set forth its conclusions as to the essential requirements of a law for the registration of deaths and the collection of mortality statistics.

An epitome of these provisions are as follows:

1. Deaths must be registered immediately after their occurrence.

2. Certificates of death should be required.

3. Burial or removal permits are essential to the enforcement of the law.

4. Efficient local registrars are necessary.

5. The responsibility for reporting deaths to the local registrar should be fixed.

6. The central registration office should have full control of the local machinery, and its rules should have the effect of law.

7. The transmission and preservation of records should be provided for.

8. Penalties should be provided.

These provisions seem to cover the whole ground so far as is feasible under existing conditions, but, as the committee state, "It is not practicable to draft a complete law that can be adopted, without modification, in the States or cities which may wish to enact such legislation. The paper must, therefore, be considered as furnishing the accepted view of the general scheme for registration, and as affording interested parties an authoritative basis for constructing a law adapted to local conditions. The committee further declare that it is desirable that Congress, the United States census office, the medical departments of the Government, the legislatures of all the States, their boards of health and registration bureaus, municipal boards of health and all sanitary, medical, statistical, and economic associations, should unite in efforts to extend in this country the practice of accurate registration of deaths, and the publication and utilization of the valuable data resulting therefrom."

To bring about this much-to-be-desired end, a thorough reform must be effected in the slip-shod methods now practised.

The United States stands almost alone among the civilized nations of the world in that she has no national uniform system of registration, and, in consequence, it is impossible for her census officers to collect data as to the movement of population, and other facts which are extremely valuable, considered from every standpoint.

Registration has been left in the hands of separate and independent States, and has been done well or ill, or left undone, in accordance with the will of each State, and with no reference to the utility of registration as regarded from the broader point of view of the Federal Government.

An alteration of this condition of things upon the lines suggested by the Committee of the American Public Health Associa-

tion, endorsed by the census office and the Commissioner of Labor, would have the effect of rendering available most valuable statistical information.

The question of a national uniformity of system will be brought by the Director of the Census to the immediate attention of the Governors and Legislatures of the non-registration States, and every effort will be made to procure the introduction and passage of the desired laws.

The movement is one in praise of which it would be impossible to say too much. Therefore it is to be hoped that medical men in all parts of the country will use their utmost endeavors to bring to pass a uniform and efficient system of registration throughout the United States.

MILK FLOUR IN SWEDEN.

Dr. M. Ekenberg, of Gothenburg, has made a discovery which will be of importance in dairy farming. He claims to have invented an apparatus by which milk can be brought into the form of powder, like flour in appearance, but possessing all the qualities of milk in concentrated form, moisture excepted. It is said that this milk flour is completely soluble in water, and can be used for all purposes for which common milk is employed. The milk flour does not get sour, does not ferment, and in the dry state is not sensitive to changes in the weather. It can be kept and transported in tin cans, barrels, bags, etc. The cost of production Dr. Ekenberg has estimated at about 27 cents per 106 quarts, and he thinks that flour made from skimmed milk can be sold for about 13 cents per pound. At a recent meeting of the Academy of Agriculture, Dr. Ekenberg exhibited samples of the milk flour, which received favorable comments. It is considered that the invention will be of the greatest importance for the utilization of skimmed milk, which heretofore has largely been wasted, but in the dry form can be transported all over the country without losing any of its original good qualities.

The product mentioned is considered superior to the casein products "proton" and "proteide" now manufactured from milk by the aid of rennet, acid, or lye.

ROBERT S. S. BERGH,
Consul.

Gothenburg, November 20, 1901.

AMERICAN CONGRESS OF TUBERCULOSIS.

Extensive preparations are made for this event, which will be held at the Hotel Majestic on May 14, 15 and 16, proximo.

The greatest interest centers upon the discussions of the four leading symposiums which have been arranged for that congress.

1.—Preventive Legislation, Embracing the Social, Municipal, and State Aspects of Tuberculosis. (What aid should be expected from the State in the cure and prevention of tuberculosis, and how shall this be secured?)

2.—Tuberculosis in Its Pathological and Bacteriological Aspects.

3.—The Medical and Surgical Aspects of Tuberculosis. (Embracing sanatoria and climatic conditions, light and electricity.)

4.—The Veterinary Aspects of Tuberculosis.

Professor Adami will speak at the congress, one of the professors of McGill University on the fourth symposium, and the leading men of the medical profession will take part in this discussion. Professor Koch, of Berlin, has been invited to contribute his views to it.

The governors of the American States evince a great interest in the congress and its labors. Among the many acceptances of the vice-presidencies, those but recently received, from the governors of Michigan and Iowa, show the interest in those States in the work. We give these two.

EXECUTIVE OFFICE, DES MOINES, March 8, 1902.

Dear Sir—I beg to acknowledge your circular letter of March 1. I shall be glad to become an honorary vice-president of your society, and will within a short time appoint delegates from Iowa to the meeting of 1902. While I am not technically familiar with the subjects which you will consider, I have the deepest sympathy with every effort to ameliorate human suffering, and I sincerely hope that your profession, which has contributed so much to the learning of the world, will, in this field, make another distinct advance.

Yours very truly,

(Signed) ALBERT B. CUMMINS.

CLARK BELL, Secretary,

39 Broadway, New York, N. Y.

STATE OF MICHIGAN, EXECUTIVE OFFICE,
LANSING, March 7, 1902.

MR. CLARK BELL, Secretary and Treasurer, New York City.

Dear Sir—In reply to yours of the 1st instant, it affords me pleasure to accept the appointment as honorary vice-president for Michigan to the American Congress of Tuberculosis. I sympathize strongly with the work this congress is engaged in carrying on, and trust that in its battle against the ravages of this terrible disease it may win an unqualified victory.

Very respectfully,

(Signed) A. T. BLISS, Governor.

A complete list of the officers recently named will be announced in the official programme, as well as the roll of delegates which have not yet been named in many of the States.

The titles of papers already received indicate a great interest, and a large number of titles has been already received.

These will be classified and published in full in the programme at the opening of the congress.

The Bulletin of the Congress of 1901 will now shortly be published and sent to each member of that congress.

Arrangements have been made to enable delegates to obtain railway transportation from the railroad companies at reduced rates.

Tickets will be sold delegates from any station in the United States and the reduction given on the return ticket, so as to make the total fare one and one-third.

This reduction will depend upon the sale of at least 100 tickets, and members are earnestly requested not to neglect to apply for the reduced rates, even on short distances, because 100 tickets are necessary to entitle any of the delegates to the benefit of the reduction.

Among the vice-presidents who have accepted since those announced in September last we announce the following additional for States, which is being increased daily:

W. H. Blake, Sheffield, Ala.; Alfred E. Regensburger, San Francisco, Cal.; Hon. A. Ruef, San Francisco, Cal.; Dr. P. C. Remondino, San Diego, Cal.; E. Beecher Hooker, M. D., New Haven, Conn.; R. J. Nunn, M. D., Savannah, Ga.; Hon. W. O. Smith, Honolulu, Hawaii; C. B. Cooper, M. D., Honolulu, Hawaii; B. D. Bond, Kohala, Hawaii; Dr. J. B. Morris, Lewiston, Idaho; T. Henry Davis, Richmond, Ind.; Dr. Felix Fermente, New Orleans, La.; Prof. Dr. J. B. Elliott, New Orleans, La.; Dr.

P. G. Archinard, New Orleans, La.; Dr. Alonzo Garcelon, Lewiston, Me.; Dr. Hampson Jones, Baltimore, Md.; Wm. H. Welch, Baltimore, Md.; Wm. Lee Howard, Baltimore, Md.; Dr. Henry O. Macy, Boston, Mass.; Dr. J. H. McCullom, Boston, Mass.; Hon. Henry A. Haigh, Detroit, Mich.; John H. Kellogg, M. D., Battle Creek, Mich.; Clarence A. Lightner, Detroit, Mich.; Dr. Leonidas H. Laidley, St. Louis, Mo.; Daniel Lewis, M. D., New York City, N. Y.; Dr. Wm. L. Dunn, Asheville, N. C.; Dwight Shumway Moore, M. D., Jamestown, N. Dak.; Charles O. Probst, Columbus, O.; Hon. Joseph H. Outhwaite, Columbus, O.; George R. Dean, M. D., Spartanburg, S. C.; Lewis W. Spradling, of Tennessee; Dr. Martha Hughes Cannon, Salt Lake City, Utah; Sofus B. Nelson, Pullman, Washington; Wm. W. Golden, Elkins, W. Va.; Peter H. Bryce, Esq., Toronto, Ontario; Wm. Fassett Smith, M. D., San Juan, Porto Rico; Dr. P. J. Salicrup, Ponce, Porto Rico; Dr. F. F. Falco, Havana, Cuba; Hon. Urbano Sanchez Hechevarria, Chief Justice, Santiago de Cuba, Cuba; Señor Rafael Montufar, City of Guatemala, Guatemala; Dr. Samuel Gache. Buenos Ayres, Argentine Republic, S. A.; Dr. Francisco de Veyga, Buenos Ayres, Argentine Republic.

A large number of the enrolled members have already announced the titles of their papers for the session of 1902, and a still larger number have sent their names to the secretary, who will contribute papers and send the titles later.

The presidents of the Central and South American republics, and all governments on the American continents, have been invited to send delegates and to name suitable persons to act as vice-presidents, and their men of science requested to enroll and contribute to the work of the congress, many of whom are already represented by delegates. No attempt will be made to classify and arrange these until the programme can be announced, but, if thought advisable, a preliminary announcement will be made, one month before the annual meeting, of the titles of papers and names of authors.

Those who were named as delegates by the governors of States, or medical or scientific bodies, for the session of 1901, are cordially invited to enroll for the congress of 1902. The enrolling fee will be $3, which will entitle the member to the Bulletin of the Congress of 1902.

All medical bodies and scientific or legal associations, or associations of the bar, are invited to send delegates to the congress, who will be given the rights of the floor and a vote at the session.

CLARK BELL, Secretary.

BOOK REVIEWS.

UNDER THE SOUTHERN SUN. By MARY B. HEYER. 12mo. Pp. 258. New York: The Abbey Press.

The title of the volume indicates its general features. It may be studied from a twofold point—simply as a work of art and as an expression of the deep, warm spirit with which it was inspired. —the deep religious spirit, full of piety and filial affection, abounding in all that is endearing and lovable in social and family ties. It invites, indeed, it enkindles, the warmest sympathy in the heart of the reader who can sympathize with human nature. Its strongest, its most forcible outbursts of feeling are called out in its intense patriotic emotions. It has the ardor, the impetuosity of the Southern woman of years gone by, but chastened and tempered by sorrow, by disappointment, and by the severing of family ties.

The home feeling is expressed in all its simplicity and natural and childlike portrayal, as in

"The quaint old house by the river,
With its shadowy elms so tall;
Where orioles used to build,
And the sweet peas over the wall."

Then the religious feelings are evinced in many very earnest verses, as in "Easter Morn":

"Mary, why weepest thou beside the tomb,
Why seek ye Him within its silent tomb?
Christ is not there."

For a Woman's Trials she quotes:

"He has come to ape
The purple testament of bleeding war."
—Shakespeare.

"And so my heart was rent in twain
The day they rode away;
My husband wore the coat of Blue,
My child the Southern Gray!"

This same condition has brought misery to many an aching heart. Bereaved of all they held most dear on earth, they were left to mourn their fate alone. But now the scenes are changing, the existing condition is being recognized, and is forcibly expressed by another Southern poet.—A. J. R.:

"Furl that banner, softly, slowly!
Treat it gently—it is holy—
For it droops above the dead."

"Touch it not—unfold it never,
Let it droop there, furled forever,
For its people's hopes are dead."

T. P. C.

A System of Physiologic Therapeutics—A Practical Exposition of the Methods, Other Than Drug Giving, Useful in the Prevention of Disease and the Treatment of the Sick. Edited by Solomon Silas Cohen, A. M., M. D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic, Lecturer on Clinical Medicine at Jefferson Medical College, etc., etc.

Climatology of Health Resorts—Mineral Springs. By F. Parker Weber, M. A., M. D., F. R. C. P. (London), physician to the German Hospital, Dalston; assistant physician North London Hospital for Consumptives; author of "The Mineral Waters and Health Resorts of Europe," with the Collaboration for America of Guy Hinsdale, A. M. M. D., Secretary of the American Climatological Association; President of the Pennsylvania Society for the Prevention of Tuberculosis; formerly Lecturer on Climatology in the University of Pennsylvania.

In two books (Volumes III and IV of the "System of Physiologic Therapeutics"). Book I: Principles of Climatotherapy —Ocean Voyages—Mediterranean, European and British Health Resorts—Illustrated, with maps. Book II: Health Resorts of Africa, Asia, Australia and America—Special Therapeutics, with a special article on the Hawaiian Islands, by Dr. Titus Munson Coan, of New York. Illustrated, with maps. Pp. 336, 420. Philadelphia: P. Blakiston's Son & Co.

These volumes comprise an epitome of a great amount of literature on climate and the conditions which render it more or less commendable in its sanitary relations. But still, considering climate, as has been our wont heretofore, and the more in the light

of the now universally accepted etiology of tuberculosis—the disease most of all diseases until recent years, but no longer deemed to be particularly amenable to climate—we are, more than ever, disposed to contend that climate is so indissolubly affiliated with or dependent upon physical geography and other conditions related to preventive medicine as to render it unclassifiable as a therapeutic agent. Nevertheless, the purpose of the authors, in comprehending whatever is useful for the promotion of health, as well as for curing disease, is commendable and perfectly consistent with the highest standard of progressive medicine as a whole, however exceptional the classification of its elements.

The work is divided into three parts. The first part consists of fifty pages, devoted to physics, physiology and general therapeutics of climate; the second part is the bulk of the work, giving the gist of knowledge on climate in affiliation with physical geography in its narrow, as well as extensive relations all over the world, but wholly apart from the deceptive descriptions common to health-resort literature. The third part, consisting of about 150 pages, is specially devoted to climatic therapeutics—indicating how particular diseases may be benefited by resort to suitable localities.

The climate of Hawaii is tersely described as being essentially oceanic in its uniformity of temperature without excessive heat, modified by oceanic currents, tropical storms and immense, though variable, rainfall—from 50 to 275 inches per annum—and healthful. Altogether, the work is commendable for its impartiality and fulness. It is replete with interest to physicians or other persons in search of reliable information on the subjects of which it treats.

THE AMERICAN YEAR-BOOK OF MEDICINE AND SURGERY FOR 1902. A yearly Digest of Scientific Progress and Authoritative Opinion in all branches of Medicine and Surgery, drawn from journals, monographs, and text-books of the leading American and foreign authors and investigators. Arranged, with critical editorial comments, by eminent American specialists, under the editorial charge of GEORGE M. GOULD, A. M., M. D. In two volumes—Volume I, including *General Medicine*, octavo, 700 pages, illustrated; Volume II, *General Surgery*, octavo, 684 pages, illustrated. Philadelphia and London: W. B. Saunders & Co. 1902. Per volume: Cloth, $3.00 net; Half Morocco, $3.75 net.

VOLUME I.—Collected and arranged with critical editorial comments by Drs. Samuel W. Abbott, Archibald Church, Louis A. Deshring, D. L. Edsall, Alfred Hand, Jr., Milton B. Hartzell, Reid

Hunt, Wyatt Johnston, Walter Jones, A. O. I. Kelly, David Riesman, Louis Starr, Alfred Stengel, A. A. Stevens, G. N. Stewart, Reynold W. Wilcox. No comments are necessary for significance to any one of these authors, whose contributions compose this volume: General Medicine; Pedriatrics; Pathology and Bacteriology; Nervous and Mental Diseases; Cutaneous Diseases and Syphilis; Materia-Medica, Experimental Therapeutics and Pharmacology; Physiology; Legal Medicine; Public Hygiene and Preventive Medicine; Physiological Chemistry. No physician who would be abreast with medical progress can afford to be without the most recent knowledge on these subjects, as exemplified in this book, divested of all redundancy and represented in its most practical aspects.

BIONOMICS, EXPERIMENTAL INVESTIGATIONS WITH BACILLUS SANARELLI, AND EXPERIMENTAL INVESTIGATIONS WITH MALARIA, IN CONNECTION WITH THE MOSQUITOES OF NEW ORLEANS. By Prof. GEO. E. BEYER, Dept. of Biology of Tulane University; Dr. O. L. POTHIER, Pathologist to Charity Hospital; Dr. M. COURET, Assistant Pathologist to Charity Hospital, and Dr. L. I. LEMANN, Assistant Demonstrator of Microscopy, N. O. College of Dentistry: Report of the Mosquito Commission to the Orleans Parish Medical Society.

An important brochure of seventy-eight pages, lucidly illustrated, rehearsing, demonstrating and adding to the recent investigations of the committees of the Army and Marine Hospital Service in Havana, briefly summarized as follows:

"I. We have studied the topographical and seasonal distribution of the mosquitoes infesting this city and vicinity and have determined that *Anopheles* inhabits the swamps surrounding the city, as well as the outskirts, while *Stegomyia* and some of the common forms of *Culex* prevail in the heart of the city, finding their breeding places in cisterns and gutters. In this connection, we would call attention to the maps of the distribution of these genera of mosquitoes and of the location of yellow fever cases in the year 1897, exhibited (by plates and maps omitted). . . . While there is a more or less striking coincidence between the distribution of *Stegomyia* and of yellow fever cases, and while we think this is in a degree significant, we ought not to lay undue emphasis upon this fact, for reasons which will readily present themselves. It must be remembered that these fever cases were not checked up by blood examinations and we cannot be certain

that all cases reported were yellow fever, nor that all yellow fever cases were reported. Moreover, *Stegomyia* is absent from those sections sparsely inhabited, which show no yellow fever infection, possibly because there were no inhabitants to have the disease.

"II. Experimental work with *Bacillus icteroides* Sanarelli and mosquitoes.

a. We have established to our satisfaction that the bacillus described by Sanarelli as *Bacillus icteroides* is a distinct pathogenic organism.

b. We have infected *Stegomyia fasciata* by allowing them to bite animals infected with *Bacillus icteroides* Sanarelli and suffering from a disease corresponding experimentally to yellow fever, as observed in animals (dogs and rabbits).

c. We have recovered in pure culture the *Bacillus icteroides* Sanarelli from these mosquitoes so infected.

d. We have produced in healthy animals the same disease by allowing some to be stung by mosquitoes infected from five to eleven days previously, and by inoculating others with cultures made from infected mosquitoes.

e. We have recovered the bacilli again from these mosquito-infected animals.

f. We have not, however, been able thus far to stain and locate the bacilli in the tissues of the mosquito when sectioned.

"III. Malaria: a. Mosquitoes (*Anopheles*) that have bitten malarial patients have been sectioned and the parasites found in these sections. These sections confirm in every way the descriptions given by English, German and Italian investigators of the life cycle of the plasmodium in the body of the intermediate host.

b. Epidemiologic considerations lead us to believe that while *Anopheles maculipennis* is responsible for simple tertian and quartan infection, *Anopheles crucians* is responsible for æstivo-autumnal disease.

"IV. Prophylaxis: While we have not devoted experimental work to this section of the Commission's task, on grounds of past experience we could advocate proceeding on the following lines to keep this city free from these diseases—malaria and yellow fever:

a. We should aim ultimately to rid the city of all mosquito-breeding places, 1st, by doing away with cisterns when we shall have obtained a plentiful and cheap water supply from other sources; 2d, by abolishing surface drainage; 3d, by substituting sewerage for privy vaults.

b. Meanwhile, we should employ as temporary expedients, the following measures: First, screening of cisterns; 2d, flushing of gutters; 3d, pouring of oil on privy vaults and stagnant pools.

c. All patients suffering from malaria or yellow fever should be effectively screened by mosquito netting in order to prevent the access of mosquitoes.

Again, we emphasize the salient points of our work for which we claim credit:

"1. Study of the New Orleans mosquitoes.

"2. Correlation of distribution of *Stegomyia fasciata* and of yellow fever within limits of the city.

"3. Mosquitoes may convey *bacterial disease* by inoculation, the organism experimented with being the one believed to be the cause of yellow fever.

"4. Confirmation of the work on malaria by English, German and Italian investigators."

SYPHILIS: A SYMPOSIUM. By L. DUNCAN BULKLEY, A. M., M. D., and sixteen other syphilographers; 12mo. Pp. 120. Price, $1.00. New York: E. B. Treat & Co., 241-243 West 23d Street.

The distinguished authorities, several of them of international reputation as syphilographers, who compose this book, merit the thanks of the medical profession and especially of the general practitioners, all more or less liable to encounter syphilis in one form or another, and who are, therefore, in constant need of the most recent and best literature on the subject; such is this book.

KANT'S PROLEGOMENA TO ANY FUTURE METAPHYSICS. Edited in English by Dr. PAUL CARUS. With an essay on Kant's philosophy and selections for the study of Kant from representative histories of philosophy, portraits of Kant and Garve, facsimile of the title page of "The Critique of Pure Reason" and an autograph letter of Kant's, and Paulsen's chronology of Kant's life and publications. Pages, vi, 301. Price, paper, 50 cents, postage 9c. extra; in England and the U. P. U., 2s. 6d. Chicago: The Open Court Publishing Co.

This book has been characterized by Schopenhauer as the most important of Kant's writings. It furnishes the student with a key to Kant's main work, "The Critique of Pure Reason," constituting a digest of all the salient ideas of his system. It is simple, fluent and direct, and the best introduction obtainable to Kant's philosophy. The book is a treasure-house of Kantiana, and everything

has been done to make it an indispensable aid to the student of Kant's philosophy.

SMALLPOX. A very timely TREATISE ON SMALLPOX, to sell at $3.00, is announced for publication early in April, by J. B. Lippincott Company. It is written by Dr. GEORGE HENRY FOX, Professor of Dermatology in the College of Physicians and Surgeons, New York City, with the collaboration of Drs. S. Dana Hubbard, Sigmund Pollitzer and John H. Huddleston; all of whom are officials of the Health Department of New York City, and have had unusual opportunities for the study and treatment of this disease during the present epidemic.

The work is to be in atlas form, similar to "Fox's Photographic Atlas of Skin Diseases," published by the same house. A strong feature of the work will be its illustrations, reproduced from recent photographs, the major portion of which will be so colored as to give a very faithful representation of typical cases of variola in the successive stages of the disease, also unusual phases of Variola, Vaccinia, Varicella and diseases with which Smallpox is liable to be confounded. These illustrations number thirty-seven, and will be grouped into ten colored plates, $9\frac{1}{2}$x$10\frac{1}{4}$ inches, and six black and white photographic plates.

The names of Dr. Fox and his associates assure the excellence of the work, in which will be described the symptoms, course of the disease, characteristic points of diagnosis, and most approved methods of treatment.

CONTEMPORARY LITERATURE.

"THE NATURE OF THE NERVE IMPULSE."

Dr. Mathews, of Chicago, whose discoveries regarding the nature of nerve force were lately announced, has written for the March "Century" on the subject. Dr. Mathews not only gives full credit to Dr. Loeb's part of the work, but at the start he modestly says:

"As the investigations which form the basis of this article are of general interest, I have prepared, at the request of the editor of the 'Century,' a brief account of them. It must be remembered, however, that the particular conclusions to which Professor Loeb and I have come, have not yet been long enough exposed to scientific criticism to enable one to speak of them as generally accepted, and they may and probably will require some modification. Until they

have received such criticism, these conclusions must be accepted with caution."

Dr. Mathews thus recapitulates his article:

"In conclusion let us recapitulate briefly the main results of the foregoing paper. It has been shown: first, that the chemical stimulation of protoplasm is really an electrical stimulation; second, that the poisonous action of inorganic salts is due to the electrical charges of the salts and probably to the movements of these charges; third, that the negative charges stimulate protoplasm, while the positive prevent stimulation, and if not counteracted by the negative will destroy life; fourth, that muscle contraction is probably in its essence an electrical phenomenon, and that the conduction of a nerve impulse is almost certainly an electrical phenomenon; fifth, for the first time we have a physical explanation, which agrees with all the main known facts, of the nerve impulse and changes in irritability; sixth, we have secured a physical explanation of the way in which an anesthetic produces its effect; seventh, we are led to the hypothesis of the identity of stimulation by light and by chemicals."

"THE METAPHYSICAL MOVEMENT"

Is the subject of a very interesting contribution to the "Review of Reviews" for March, by Paul Tyner. The article is the first complete and authentic account that has appeared of a movement that is having remarkable growth and influence among all classes of people. Mr. Tyner sketches the history of the cult, its literature and its purposes, with sympathetic understanding, and the article is illustrated by portraits of leading workers in the New Thought.

The CHARACTER SKETCH in the March "Review of Reviews" is devoted to the interesting personality of the President of Harvard University. Mr. George P. Morris, the author of the sketch, tells how narrowly President Eliot escaped a career in commerce and finance by accepting an academic position at a time when the treasurership of a cotton mill was open to him! The article develops into a keen analysis of the remarkable administrative abilities displayed by the dean of our university presidents, and there is also a discriminating criticism of Dr. Eliot's literary qualities.

A familiar and entertaining character sketch of CANON GORE, who is to be the Bishop of Westminster, is contributed, with a portrait, to the March magazine number of "The Outlook," by Mr. Richard H. Lane, who knew Canon Gore when Mr. Lane was a

resident of Oxford House, London. Among other illustrated articles in "The Outlook" of this month are: "Two College Presidents" (Mark and Henry Hopkins), Edward Everett Hale's "Memories of a Hundred Years," E. A. Steiner's "Cracow and Polish Patriotism," Poultney Bigelow's "Henry, The Sailor Prince," W. A. Brown's "Some Rare Musical Instruments," and Clifton Johnson's "When the White Mountains Are White."

Readers who care for music and its history, as well as all who are interested in the quaint and antique, will find much to attract their attention in the article called "Some Rare Musical Instruments," dated March 1. It is written by Mr. William Adams Brown, and describes, with ample illustration, the remarkable collection of musical instruments presented by Mrs. John Crosby Brown to the New York Metropolitan Museum of Art.

THE CHILD'S GOOD LOOKS.

Mothers and those who have children in charge are bound by every obligation to do all that is possible to ensure the good looks of the child. As a general thing, whatever tends to promote good looks tends to increase the health. Attention to the skin, hair, teeth and the whole body will bring the child into good condition. This is realized in taking care of animals, and yet it is often lost sight of in the care of children. But, setting aside the fact that the health is greatly improved, it should be remembered also that the child's chances in life are usually proportioned to its prepossessing appearance. No one is exempt from the influence of good looks, young or old. It may be decried as so much vanity, but in reality is not. It is only the universal tendency to select that which is sound and healthy and appeals to the eye.—From "The Training of a Child," by Grace Peckham, M. D., in "The Delineator" for April.

AS WELL OFF THIS SIDE THE RIVER AS ON THE OTHER SIDE.

Booker T. Washington told the following story of a member of the "po'h white trash," who endeavored to cross a stream by means of a ferry owned by a black man:

"Uncle Mose," said the white man, "I want to cross, but I hain't got no money."

Uncle Mose scratched his head.

"Doan' you got no money 't all?" he queried.

"No," said the wayfaring stranger, "I haven't a cent."

"But it done cost you but three cents," insisted Uncle Mose, "ter cross de ferry."

"I know," said the white man, "but I haven't got the three cents."

Uncle Mose was in a quandary. "Boss," he said, "I done tole you what. Er man what's got no three cents am jes' ez well off on dis side er de river as on de odder."

RELATIVE TO PROCTOR'S.

General Manager J. Austin Fynes Makes an Interesting Statement Concerning the New York Theatrical Manager.

General Manager J. Austin Fynes, of F. F. Proctor's Enterprises, has sent out the following statement to the press of New York and vicinity:

"There will be no change in Manager Proctor's amusement plans during the current year. The policy of presenting high-class stock comedies and dramas, interpreted by evenly balanced and competent companies and with interpolated vaudeville stars, will be continued at Mr. Proctor's Fifth Avenue, Fifty-eighth Street, One Hundred and Twenty-fifth Street and at his Albany and Montreal theatres.

"This season's results at all these houses have justified the wisdom of the present plan far beyond Mr. Proctor's anticipations. The coming months will witness the production of many of the latest Broadway successes by the Proctor Stock Co., and in the scenic details there will be a much greater degree of elaborateness than has been attempted thus far.

"Mr. Proctor's Twenty-third Street Theatre will still continue to give 'straight vaudeville' in continuous performance at low prices, while his newly opened Newark theatre, which has scored an immediate and substantial success, will also continue to present out-and-out vaudeville bills of the higher class.

"The year which ended on Washington's Birthday has been an eventful one in low-priced theatricals. Many things have happened to make history, so to speak, for the vaudeville world. But out of all the turmoil and all the bitterness of struggle and various complications, Mr. Proctor's enterprises have emerged unscathed. He has added to the number of his theatres; has enjoyed a phenomenally prosperous season; is contemplating a further extension of his circuit; is independent of any alliance with any other circuit, syndicate or association, and the books show that his various theatres during the past year have played to no fewer than 4,000,000 people—a pretty fair proportion of the American population."

SANITARY SCIENCE.

A SYNOPSIS OF SANITARY SCIENCES AS REPRESENTED IN THE SANITARIAN, ALPHABETICALLY.*

By The Editor.

Collins, J., Treatment and Utilization of Town Refuse, xi, 741.
Collins, W. W., Yale College Drainage, x, 510.
Color Blindness, vii, 37.
Color, Medical Value of, xxxii, 431.
Come Home, Dear Wanderer, Come Home, Garrison, xl, 54.
Comma Bacillus, The Destructiveness of Heat, xvii, 357.
Comegys, Dr., State Medicine, v, 327.
Columbia Springs, ii, 283.
Common Dangers of House Drainage, Brandeis, ii, 412.
Common Sense *vs.* Sentiment, xxxviii, 152.
Concentration of Slaughtering in Cities, Stephen Smith, ii, 193.
Combustion, Spontaneous, Lewes, xxxii, 141; xl, 317; xliv, 449.
Comfort, Dress and Health, x, 563.
Comfort for the Feet, v, 281.
Commandments, The Sixteen of the Paris Academy of Medicine, xi, 328.
Commerce, ix, 352; Unnecessary Obstruction to, xi, 472.
Common Schools in Brooklyn, viii, 341.
Common Sense Out-House, x, 687.
Community, A Sensible, xlii, 242.
Comparative Longevity, A. H. Dana, iii, 165.
Comparative Mortality Statistics—Military Surgeons, v, 252.
Communion Cup, Fallacy of the Alleged Dangers of, xxxiii, 175, 377; Parker, 526; A Business Venture, xliv, 459.
Communion Table, Sanitation and the, Longfellow, xxx, 510.
Community Without Vaccination, Kerr, xxxiv, 246.
Competitive Examinations, Huxley, vii, 223.
Complaint, A Builder's to Board of Health, xix, 344.
Compliment, an Unsolicited, xxvii, 236.
Compliment for Experimental Science, James, xxxiv, 16.
Concerning College Life, Dr. Ollapod, ii, 10.
Conclusion of Vol. 1, i, 572; of xi, xi, 817.

* Continued from previous number.

Conditions of Excellence in Plumbing Work, J. C. Bayles, iv, 305.
Condylomata, The Treatment of, xxiii, 89.
Conery, W. B., Sanitary Care of Stock, xiii, 542.
Coney Island, The Real, xxxvii, 188.
Confederate Forces, the Vital, Morbid and Mortality Statistics of, During the Civil War, xxv, 470.
Conference of State Boards of Health, xii, 79, 563.
Conference, International Sanitary, xxxiii, 79.
Confusion of Words, xlvi, 533.
Conjunctivitis, Catarrhal, Creel, xlv, 249.
Confidential Communications to Physicians, v, 269.
Conflicting Theories of Quarantine, J. S. Billings, viii, 81.
Congress of American Physicians and Surgeons, xxvi, 371, 562; xxxii, 286, 382, 478; xxxviii, 384; xliv, 383.
Congress Internationale d'Hygiene de Paris, T. P. Corbally, vi, 425; vii, 32; of Associated Health Authorities, of Pennsylvania, xl, 106.
Congressional Committee on Public Health, x, 128.
Conn, G. P., State Board of Health, xvi, 133; Hygienic Condition of Passenger Cars, xxvii, 129; Needful Precautions Against the Spread of Communicable Diseases by Travel, xxxii, 501; Car Ventilation, xxxiv, 124.
Conn, H. W., Alcohol as a Food, xliii, 143; Present Attitude of Biologists Toward Natural Selection, xiv, 242; The Method of Evolution and the True Theory of Heredity, xlvii, 39.
Car Sanitation, xxxv, 419.
Connecticut Meeting of County Health Officers, xli, 67.
Constantine's Pine Tar Soap, Corbally, xxxiii, 379.
Constellation of Irish Bulls, xlv, 240.
Conrad, H. W., Health of the Negroes in the South, xviii, 502.
Conservative Medicine and the Mission of the Sanitarian, E. Harris, v, 126.
Constipation, Opiates in, xxvii, 66; Preventive Medicine, Concerning, Todd, xxix, 431; xxxii, 553; Treatment of, Rene, xli, 537; Chronic, of Children, Butter for, Doersser, xlv, 521.
Consolation from Statistics, v, 565.
Constitutional Liability to Disease, Simons, xxiv, 248.
Constantinople, v, 281; Cholera, in, xxxii, 460.
Construction and Management of Privies, viii, 464.
Consultations on Sanitary Subjects, v, 528.
Consumption (Tubercular), Phthisis, Tuberculosis, terms of the same significance, all comprehended under this title.

IS TUBERCULAR CONSUMPTION A CONTAGIOUS AND PARASITIC DISEASE? Bela Cogshall (1882).—From time immemorial physicians, as well as the laity, have recognized the fact that consumption was, in a certain degree, contagious. They will consult the literature of the last century (eighteenth), and will readily come to this conclusion. Aristotle (330 B. C.), says: "It makes the breath corrupt and offensive, and those who breathe it suffer," and adds, "The Greeks of his day generally believed in its contagiousness." Hippocrates had advanced this idea in his time (400 B. C.). Galen, and many others of the old masters, entertained the same views. Most authors and some entire communities believed in it previous to about 1775. . . . But it remained for Dr. Robert Koch, Member of the Imperial Board of Health, Berlin, to conclusively demonstrate the morbific agent—the tubercle bacillus. March 24, 1881, in an exhaustive lecture, accompanied by illustrations, before the Berlin Physiological Society, he narrated his experiments, observations and conclusions so forcibly and practically that tuberculosis is beyond all doubt and peradventure a bacterial disease. . . . Koch adds, the vast majority of cases of tuberculosis have their beginning in the respiratory air passages, and that the infectious material becomes first apparent in the lungs or in the bronchial glands, so that the idea lies near that the tubercle bacilli are usually inhaled with the atmosphere, being attached to dust particles, xi, 197, 209.

Sir William Broadbent, on the organization of the National Association for the Prevention of Consumption, in England, in 1899, said: "Phthisis, with all the various forms of tuberculous disease, is the work of a microbe—the tubercle bacillus discovered by Koch. This living organism is present in countless millions in the diseased lungs or intestines or bones. By its multiplication it blocks the minute blood vessels, chokes the air vesicles, and destroys structures, and by a poison or toxin which it forms it gives rise to febrile disturbance, nocturnal perspirations and wasting. It is by the transmission of these bacilli that tuberculous diseases of all kinds are spread. The principal way in which they are conveyed from a diseased to a healthy person is by means of the expectoration, which contains them in enormous numbers, and which, when dried, is suspended in the atmosphere, especially of ill-ventilated rooms, in the form of dust, and inhaled. Happily, they are not present in the breath of the consumptive patient, so that consumption is not contracted merely by breathing the same air or living in the same house with a sufferer. Another way in

which the bacilli are disseminated is in milk. Cows, unfortunately, are very subject to tuberculosis, and sooner or later the bacilli find their way into the milk. Through milk so contaminated infants and young children become affected with tabes mesenterica, tubercular meningitis and disease of the bones. The flesh of diseased animals also may contain the bacilli. If we could ensure the destruction of all the sputa of the sufferers from phthisis, and secure a supply of milk and meat absolutely free from tubercle bacilli, all the diseases due to tuberculosis, which now cause one-seventh or one-eighth of the total number of deaths, would cease from the land, xlii, 194.

Pulmonary Consumption in Cities, Frank Donaldson, iv, 62; Tuberculosis in Milch Cows and the Contagiousness of Tuberculosis by the Digestive Organs, A. N. Bell, v, 337; Tuberculosis as an Infectious Disease, T. P. Corbally, viii, 460; Contagiousness of, Not a New Doctrine, Uffelmann, xi, 615; Climatic Treatment of, Loomis, xv, 36; Home Treatment of, Shattuck, 48; Geographical Distribution of Shurley, 50; Pneumatic Differentiation in the Treatment of, Williams, 47; Rules for the Hygienic Treatment of, Richardson, 193; Colorado and Florida, Relative Advantages as Resorts for, 187; Impure Air and Unhealthful Occupations as Predisposing Causes, Chancellor, xvi, 125; in Rhode Island, Fisher, 254; Prevention of, in Mill-hands, Musser, xvii, 130; Climatic Treatment of, Williams, 41; Climate and Consumption, Denison, xviii, 157; Treated at an Elevation of 6,000 Feet, Wise, xix, 230; Relation to the Progress of Bacterial Invasion, Trudeau, 99; Climate as a Therapeutic Agent in the Treatment, Lindsay, xx, 26; from House-Sweepings, 357; Hot-Air Inhalations for, 356; In Men and Animals, xxi, 381; Fluoric Acid in, xxii, 472; One of the Deadly Penalties of Tight Lacing, B. F. Hart, 287; Prevention of, Biggs, *et al.*, xxiii, 59; Rules to Be Observed for the Prevention of the Spread of, 163; Salutary Influence of an Ocean Atmosphere on, Bell, 217; Indian Treatment of, xxiv, 334; Contagion, 264; Food in the Treatment of, Solis Cohen, 247; The Dry-Air Fallacy with Regard to, 47; xxv: An Epidemic of, 240; Isolation of, Kretzschmar, 243; Consumption and Leprosy, 153; Tubercle Bacillus in the Ground, 468; Koch's Proposed Cure for Tuberculosis, 494; Preferable Attributes, The, of Climate for Consumption, Yandell, 541; xxvi: Does Segregation Diminish

the Prevalence of Consumption? T. J. Mays, 350; Treatment of, by Residence in Colorado, Solly, 132; Acclimation of, The, to the Climate of Colorado, Dodge, 215; xxvii: Cured, Histological Changes Which Take Place in the Lungs, in, Loomis, 352; Detrimental Effect of Over-exertion in, Von Ruch, 17; The Sputum in, Shurley, 349; Specifics for, Attempts to Discover, Williams, 356; Tubercle, Accidental Inoculation with, 259; Sanderson, *et al.*, 534; Hereditary, Influence of High Altitudes on, Moore, 442; In the Criminal Class, Robinson, 29; Medical Congress on, 256; Prevention of, The Duty of the Government in, Flick, 316; The Dwelling House in Relation to, Thorne, xxviii, 23; Prevention of, xxix, 179; Treatment of, Apart from Climate, xxx, 159; xxxi: Proper Breathing Movements a Preventive of, Thos. J. Mays, 281; Contagiousness of, How to Prevent Its Spread, Flick, Bell, *et al.*, 378; Management of Convalescence in, Mays, 38; Crude, Clinical Study of, and Modification of the Lymph in the Adirondack Cottage Sanitarium, Hance, 45; Contributions to the Results of Koch's Treatment, Von Ruch, 44; Treated with Iodine, 264; xxxii: To Check, 555; Prevention of, 201; Mortality from, 545; Tuberculin Abandoned, 283; xxxiii: Should Not Marry, 91; Rarity of in the Highlands of Pennsylvania, Hinsdale, 300; Prevention of, Knight, 103; Treatment of at Colorado Springs, Solly, 105; Creosote, Guaiacol, and Benzoyl of Guaiacol in the Treatment of, 100; xxxiv: Marriage of, Paquin, 25; Climatic Segregation of, Sewell, 25; xxxv: A New Cure for, Chancellor, 439; Infected Houses, Disinfection of, Delepine, 74; Clinical Results of the Use of Tuberculine, Taylor, 255; Tuberculous Meat, 87; Prophylactic Effects of Sea-Air in, 432; xxxvi: Suitable American Climate for, Stewart, 12; Proposed Reservation for, 442; Tuberculine Denounced, 465; Mortality from in German Cities, Chancellor, 293; xxxvii: Genito-Urinary Tuberculosis, The Influence of Climate on, Munro, 519; xxxviii: Conditions Favoring, 190; Fighting, 250; The Significance of Mortality from, with Regard to the Bicycle, 64; to Prevent, 263; to Control, 173; Physicians' Free Hospital for, 358; Doubtful Effects of Altitude for, Maxwell, 316; and Insanity, the Relations Between, Irwell, 321; Indiscriminate Slaughter of Cattle for, Law, 400; Sanitaria for the Treatment of, in Germany and Switzerland, Bryn, 427; xxxix: Some Points in the Management of, Babcock, 22; Bacillus,

Bryn, 289; Tuberculin, Improved, Koch's, Corbally, 35; Saprophytic Form of, Mataillon, 153; Creosote as a Remedy, Dujardin-Beaumetz, 449; in Colorado, Bonny, 26; Aero- and Hydro- Therapeutics in, Knopf, 24; The Bacillus of, Von Ruch, 22; Institution Treatment of, Amblen, 28; The Prevention of, Hamilton, 193; Treatment of, Hinsdale, 25; Infection, Dangers of, Gardiner, 28; xl: Climate for, Waugh, 408; Mountain Sanitarium for, 114; xli: An Indoor Disease, Abbott, 311; Tuberculous Fish, 63; Fighting The, the Pennsylvania Society, 262; Place of the State in Dealing with, Bryce, 113; Serum Treatment of, Berlioz, 349; xlii: Climate and, 283; Convicts and, 447; Prevention of, Broadbent, 193; Restriction of, 446; Treatment of in England, 530; Government Reservation for the Care of, 446; of the Poor, 198; Sanitaria for, 277; in New York Tenement-Houses, 450; xliii: Early Diagnosis in, Bonney, 17; Subsequent Histories of Arrested Cures of, Bowditch, 21; Treatment of with Air and Light, Gardiner, 115; Apartments Occupied by, Fumigation of, McGahan, 23; California State Board of Health's Proposition to Prohibit Entering the State, 461; Intermediate Altitudes for, Anderson, 23: Creosote in the Treatment of, Bucquoy, 159; Butter as a Vehicle for Tubercle Bacilli, 72; Tubercular Tests, Otis, 20; Climate and Sea Voyages for, Weber, 97; Death-Rate in, 182; Municipal Hospitals for, 74; Prevention of, Keene, 213; Rœntgen Ray Examinations, Williams, 22; Sanatoria for the Treatment of, Hueppe, 204; Anti-Tuberculosis Laws, 39; xliv: Communicability and Restriction of, Baker, 497; Measures Against, in Colorado, 342; Michigan State Board of Health's Requirement to Report Cases of, 168; Cuspidors for the Use of, 436; Sanatoria for, 95; Tuberculous History of a Herd of Cows, 63; Congress—Portraits of Officers and Authors, 496—Opening Address by Clark Bell, 423; of Welcome, H. G. Chapin, 426; Among Animals, Dunphy, 27; Among Belgian Cattle, 64; Increase of Among the Hebrews, 180; Precautions Against in France, 203; in Paris, Barbier, 353; in the Army, Colin, 452; Reporting of, in New York, 161; Preliminary Remarks on—at Tuberculosis Congress—Denison, 428; Permanent Cure of, Camp and Outdoor Life as an Aid to, Keys, 433; xlv: Our Race and, Grant, 385; Sanatoria for, Prohibited, 451; A Consumptive's Experience, 75; and Their Friends, Instruction

for, 468; Concentrating, 473; A Study as to the Laws of, Lyle, 11; Congress, Group of Portraits of, 106; Extermination of the Human Race by, Crotte, 15; Hospital, The Adirondack, 455; Is Change of Climate a Necessity in the Treatment of? Von Ruck, 107; "My Own Case," Metzerott, 109; Prize Offered for Contributions on, 157; Raw Meat for, Richet, 452; The Tenements and, Knopf, 208; Treatment of, Laborde, 251; What Are the Most Successful Modes of Treatment of? Von Ruck, 325; xlvi: Hospital for, the Boston, 367; Proposed Tax on Alcohol for the Benefit of, 440; Sanatoria for, Richards, 106; Site for New York State Hospital for, 162; Prevalence of in Germany, 163; The Prevention of, at American Congress of Tuberculosis, A. N. Bell, 484; Consumption and Country Air, Brunon, 535; xlvii: A Retrospect, Heneage Gibbes, 46; Preventive Measures, Mather, 49; Tuberculosis and Nutrition, Monfet, 51; A Bar to Immigration, 53; Is It Possible to Prevent by Proper Dietetics and Hygiene? Kinney, 64; To Take Census of in State of New York, 68; The British Medical Congress for Prevention of, 84; The Curing of in Sanatoria, Schrotter, 131; The Fight Against Tuberculosis in the Light of Experience Gained in the Successful Combat of Other Infectious Diseases—Address at the British Congress of Tuberculosis, July 23, 1901—by Robert Koch, 197; The Prevention of—Measures Adopted by Different Nations for, Brouardel, 213; Direct Infection of Nurse from, 340; Prophylaxis of, Lachapelle, 325; Royal Commission, 353; State Hospital for, in Connecticut, Fisher, 428; Formento on, 439; Experimental, Lannelonque, Schard and Galliard, 516; Koch's Modified Statement on the Relation of Bovine to Human Tuberculosis, 340; Precautions Against the Danger of to Man Should Not be Abandoned, 349.

Consumption of Oxygen, i, 446.

Consumptives, The Loomis Sanitarium for, xxxvii, 531.

Consumptives, Newport, R. I., as a Sanitary Resort for, xi, 350.

Contagious Diseases, iii, 326; Contagiousness of Phthisis, Tappenier, vi, 358; Act to Prevent the Introduction of, vii, 357; Hospital for in Brooklyn, xviii, 144; Legal Responsibility for the Care of, Judge Dixon, xi, 74; by John Avery, xiii, 56; in America, W. M. Beach, xiv, 388; Should Not the Government Defend Us from? Benj. Lee, xx, 510; Contagion and Heredity, Relative Importance of, xxx, 347; Contagiousness

of Pneumonia, 534; Contagious Diseases in the Public Schools of New York, xxxv, 468; in Street Cars, The Danger of, Borland, xxxvii, 508; Pecuniary Responsibility for Isolation of Persons Affected with, 339; Contagious Impetigo, Gotthiel, xxxviii, 62; Contagion and Infection—The Difference, Grigg, xliii, 449; Prevention of, Wright, 520; Discussion of, 521; Relation of to School Work, Durgin, xlvi, 137.
Contagious-Disease Acts of Great Britain, J. B. Nevins, ix, 150, 218, 315, 397, 442; A. L. Gihon, 507; British Continental Society, 92; National Medical Association for the Repeal of, xi, 330.
Contaminated Water, E. L. Veile, ii, 370.
Contamination of Drinking Water, Nichols, iv, 354.
Contributions to Medical Science by the Bureaus of Medicine and Surgery, Navy Department, i, 47.
Contempt of Court, xx, 316.
Contest of Stinks, x, 562.
Convalescence, vi, 457.
Converse, D., Disposition of the Dead in India, xxviii, 129.
Conviction of Milk Venders, iv, 138.
Cooke, G. H., Iquique, Its Local Conditions and Climate, xxx, 243.
Cook's Grand Excursions to Europe, viii, 138.
Cook, W. C., Public Health and Legislation, xiv, 316; Teaching Hygiene in Schools, xix, 221.
Cooking, The Chemistry of, xlvi, 235.
Cookery, French, xi, 667, 678.
Cookery, Popular, xiii, 426.
Cooking, Practical, Sanitary and Economical, Prize Essays on, xix, 444; xxii, 266; and Heating with Gas, Thomas, xxiii, 41; xxxii, 61.
"Coolest Town in the World," xxii, 46.
Coomes, M. F. Deleterious Effects of Tobacco on the Throat and Nose, xix, 251.
Cope, E. D., Oldest Civilized Men, The, xxxvii, 246.
Copper, Hygienic Importance of, xxviii, 335.
Coppoc, J. B., Hamburg Water, xxix, 519.
Corbally, T. P., Value of Health to a City, iii, 248, 365; State Medicine in Massachusetts, iv, 461; Value of Health to a City, 149; Deformities and Their Relation to Hygiene, 386, 433; v, 73; Civil Malpractice and Medical Jurisprudence, 504; Congress Internationale d'Hygiene, vi, 425; Brooklyn Sew-

ers, vii, 156; Dwelling Houses for Working People, 303; Tuberculosis as an Infectious Disease, viii, 460; School Hygiene, ix, 253; Alienists, Italian Society of, 320; Advice to Mothers on the Care of Infants (Travis), 367; Public Hygiene in Spain, 455; Hygiene in Medical Schools, 563; Smallpox Epidemic at Dieppe, x, 86; National Board of Health Report, 360; Rio de Janeiro, 641; Cholera, xi, 468, 481; Domestic Lead Poisoning, 371; English and American Plumbers, 778; National Sanitary Congress, 715; Preventable Diseases Abroad, 20, 90, 297; Salad, 520, 534; International Sanitary Conferences in Their Commercial Relations, xii, 421, 522; Mortality in the Army and Navy of France, 355; Some Causes of Infant Mortality, 75; The Cholera in Europe, xiii, 400, 498; Army Sanitation, xiv, 301; Hygiene and Movements of the Population of Buenos Ayres and Some of the Other South American States, xv, 406; Nomenclature of Sanitary Science, xvii, 97; Brazil, xviii, 55; xxi: Argentine Republic and the Progress of Sanitation Therein, 20; Medical Excerpt, in this and succeeding volumes, the excerpta throughout designated by title and authenticated, xxv; Protective Power of Vaccination, The, 385; Infectious Diseases Abroad, xxvii, 368; The Truth About Vaccination, 458, 541; Adulteration of Wine, 20; Brooklyn's Disgraceful Nuisances, 131; Cholera Abroad, 315; Erysipelas—Is It Contagious? 241; Military Hygiene in France, 319; Sewage Disposal—Brooklyn in the Face of Some Examples, xxxi, 3; Interantional Sanitary Congress at Paris, xxxv, 259; Koch's Improved Tuberculin, xxxix, 35.

Cordeiro, F. J. B., Ready Method of Determining the Amount of Carbonic Acid in the Atmosphere, xiv, 299; Thermics and Thermo-Dynamics of the Body, xxxix, 3.

Cork Pavement, xxxvi, 215.

Cordon for the "Suppression" of Yellow Fever, xi, 148, 155, 185.

Corkhill, G. B. Insanity as a Defense for Crime, xi, 305.

Colored Corona, xv, 105.

Corn Crop, xi, 745.

Corn, Consumption of, in Germany, xlvi, 299.

Corn Meal, Nutritive Value of, xxxvii, 47.

Cornell University, xi, 280, 298.

Coroner Question, x, 745; xi, 151, 379; Proposed Change in System, xxx, 517.

Corrigender, v, 270.

Corrosion of Lead by Lime, x, 231.
Cost of Drinking Habits, Edward Young, vi, 456.
Corson, Juliet, Nourishing Foods and Drinks for the Sick, xi, 260.
Coryza, Remedy for, Maurel, xxxiv, 240.
Corrections and Charities, Relation of State Boards of Health to, H. B. Baker, xxi, 331.
Cosmopolitan Health Studies, F. L. Oswald, xlvi, 524.
Cost of Destroying a Slum, Edward Marshall, xxxvi, 377.
Costly Unsanitary Houses, xxxiv, 364.
Cosmetics, iii, 182; Yeamans, viii, 345; Dangerous, xi, 666; Hills, xxi, 331.
Corrosive Sublimate, The Value of as a Practical Disinfectant, H. B. Baker, xi, 33.
Costume, Infectious Disease-proof, xi, 184.
Cotton, A. C., Hens' Eggs in Infant Feeding, xliv, 415.
Cotton as a Fomite of Yellow Fever, J. D. Plunkett, viii, 49.
Cotton, Infected, xvii, 563; Something About, xxiv, 32.
Cotton Seed Oil in Lard, Detection of, xxi, 478.
Cotton Traps and Manure, xxxv, 78.
Cowbane and Wild Parsnips, A. B. Stewart, iii, 189.
Coxe, N. D., Scarlet Fever and Sanitation, xxxix, 137.
Coughs, Laryngeal, or Winter, Fleming, xxxviii, 351; xliv, 51.
Couldn't Believe It, xlvi, 245.
Couldn't Understand, xlvii, 96.
Court House, A Specimen, xxxviii, 455; The Stench in, xlv, 159.
Country Life, Beauties of, xxxiii, 188.
Crane, James, Prevention of Contagious Diseases, ix, 166.
County of New York, Defective Drainage of, Moreau Morris, i, 535.
Councilman, W. T., Malarial Germ of Laveran, xix, 444.
Cooling Drinks, iii, 240.
Court Rooms, New York, viii, 226.
Crabs, v, 272.
Craig, W. H., Sewerage System of Detroit, viii, 201.
Craig, J. D., Epidemic Diseases in Albany and Vicinity, xxvii, 212.
Cranks? Who are The, xxxv, 82.
Crawford, R., The Arsenical Beer Poisoning in England, xlvi, 408.
Cream for the Sick, xxxix, 64.
Cream Cheese and Old Tub Butter, vii, 510.
Cremation, Refuse, xxx, 165; Importance of in Cholera, Newman, *et al.*, 289; Garbage, 298; Solomon, xlv, 308.

Crede Unguentum, Dagenberger, xlvii, 450.
Credit Side of Cholera Account, xxxiv, 281.
Cremation of Table and Kitchen Refuse, v, 334.
Cremation *vs.* Inhumation, G. M. Lamb, xiii, 243.
Cremation as a Life Insurance Problem, Hoffman, xlvi, 55.
Cremation in France, xvi, 397.
Cremation as a Sanitary and Economic Measure, xx, 452.
Cremator, A, Cremated, xxii, 358.
Cremator, The Engle, xxx, 125.
Cremator, Garbage and Refuse, The Foster, xxv, 17.
Creoline and the Comma Bacillus, xxii, 187.
Creosote, Guaiacol, and Benzoyl of Guaiacol in Phthisis, xxxiii, 108; Catin, xxxvi, 435.
Crime and Degeneration, The Study of, Anderson, xxxviii, 435.
Crime, An Unsanitary, xxxv, 155.
Crime, G. T. Angell, iv, 82; Society for the Prevention of, viii, 227.
Crime and Education in France, xi, 56.
Crime, Insanity as a Defense for, Corkhill, xi, 305, 461; Increase of, and Moral Education, Hart, xxix, 239.
Crime, Medical Aspects of, Brower, xliii, 193.
Criminal Laws, Some of the Practical Results of, from a Sanitary Standpoint, Reed, xviii, 273.
Criminals, The Treatment of, xxxvi, 77.
Creosoforma, Brisonet, xli, 350.
Crete and Its Natives, Kalopathakes, xxxix, 95.
CRIMINALITY, W. C. Stephenson.—A careful study of the relations of criminality to organic conditions, hereditary or acquired, and the citation of cases in verification of its transmissibility, v, 353, 391.
Criminality of New York Tenement-Houses, A. N. Bell, ix, 89.
Criminals, Condemnation of, Not Punishment, xxxviii, 285.
Criminals, Evidence of Insanity in Brains of, Spitzka, x, 406.
Criminal Responsibility, ii, 296.
Cripples Made by Intemperance, ii, 361.
Cross, The, and the Crescent, vi, 118.
Croton Valley Water Shed, xxvii, 272; and Its Sponsors, Illustrated, Adams, xxx, 385; The Nuisances of, 445; xxxi, 176.
Crothers, J. D., Relations of Inebriety to Public Health, iii, 398; Inebriety and Its Treatment, xix, 248. Influence of Inebriety on the Public Health, xxx, 35.

Crotte, E., Extermination of the Human Race by Tuberculosis, xlv, 15.
Crouch, H. C., Microscopic Diagnosis of Diphtheria, xxv, 490.
Crudeli, T., Prevention of Malarial Fever, xix, 211.
Croup? What Is, xxxv, 263.
Cruelty, i, 213; Horsford's Acid Phosphates, xiii, 464.
Crushed White Wheat, ii, 522; iii, 336.
Crystal Brook, xxii, 538.
Cuba, A Menace to the United States, Maxwell, xxvi, 97; Yellow Fever and Small-pox in, xxxvii, 272, 382, 471, 554; xxxviii, 56; Col. Waring's Work in, xlii, 93; Havana's Needed Sanitation, 162; Sanitation in, xliii, 271; Success of Sanitary Work in, xliv, 375; Uplifting of, Prince, xlv, 51.
Cuba and Porto Rico, Consul Hyatt, xli, 210.
Cuban Allies, xxxviii, 151.
Cuban Shame, America's Share in, Bonsal, xxxix, 95.
Cuban Population, xlv, 46.
Cuban Educational Association, xliii, 384.
Cubans, Some Distressed, xliii, 67.
Cuban Fruits and Vegetables, xlvii, 286.
Cure, That Proverbial, xxxix, 112.
Cure for Discontent, ii, 538.
"Cups, Dr.," An Old Doctor's Story, viii, 113.
Curriculum, Extended, xxxv, 292.
Curse of New York Tenement-Houses, xxxiii, 186.
Curious Cause of Death, xlvii, 505.
Curtain, G. L., Influence of Sea Air on Syphilitic Phthisis, xviii, 546; Herpes Zoster, a Cause of Pleurisy and Peritonitis, xxv, 548.
Curtin, R. G., Epidemiology of Influenza and Its Relation to Catarrhal Fever, xxvii, 433; Angina Pectoris, xxxi, 35; Creosote in Phthisis, xxxiii, 100; Clinical Study of Tachycardia, xxxix, 34; Cardio-Œsophageal Gush, xliii, 30.
Curtis, F. C., Conditions of Sanitary Interest in Albany, xxx, 487.
Curtis, G. W., Whittier and Holmes, xiv, 62; Mexico, xvi, 132.
Curtis, R. J., Hygiene of Nature, xvii, 3.
Curtiss, G. L., Filth and Legislation Regarding Its Destruction, xiv, 136.
Cuspidors, Consumptives', xliv, 346.
Cutaneous Staphylococcia, Gaston and Cannet, xxxvi, 526.
Cutler, G., The Near Future of Electricity, xxiv, 43.
Cycling in England, xxxvii, 340.

Cyclist, The Woman, xxxiv, 568.
Cyclops, The, and Some Religious Newspapers, xxviii, 560.
Cysto-Diagnosis of Tubercular Meningitis, Widal, xlv, 531.
Cyanosis and Inversion of the Viscera, Barie, xxxiii, 265.
Cyst of the Liver, Hydated, Boinet, xxxix, 356.
Cyst, Salol in the Treatment of, xxii, 285; Caused by Alkalies in Large Doses, Meathieu, xxxv, 71; xl, 248; Treatment of, Mayfield, xlii, 154.
Cysts, Hydatid, Dieulafoy, xliii, 57.
D'Armand, J. A., Alcoholism and Heredity, xxvii, 202.
Da Costa, J. M., Starvation Fever, x, 75.
Dahomey, The Campaign in Medical History of, xxxii, 84.
Dairies, Sanitation of, Magruder, xliv, 397.
Dairy School, The Work of, xxxiii, 92.
Dake, I. P., Isolation in Yellow Fever, viii, 70.
Dakota's Climate, xxviii, 343.
Daly, W. H., Observations on So-Called Malaria, xxxiii, 306.
Damages for Open Sewer, xxxiii, 189.
Damages for Typhoid Fever, xli, 555.
Damp in New Houses, Preventives of, White, xi, 363.
Dampness of Walls and Preservation of Microbes, xliii, 25.
Dana, A. H., Physiology of Intemperance, ii, 244; Enigmas of Life, 496; Comparative Longevity, iii, 165; Relations of Sex to Health, 385; Uses and Abuses of Life Insurance, iv, 123.
Dancing, A Medical Objection to (the abuse of), G. L. Beardsley, xxxii, 138.
"Danger Ahead," ix, 503.
Danger and Daring, Careers of, Daskam, xlvii, 94.
Danger, Examples of, xliii, 245.
Danger of Lead Pipes, Bad Plumbing, Etc., C. F. Chandler, Carl Pfeifer, Moreau Morris, *et al.*, iii, 61.
Danger of Wet Coal, i, 235.
Danger of Accumulated Sewage, P. G. Robinson, v, 324.
Dangers of Lumbering, W. S. Harwood, xxxix, 562.
Dangerous Filters, xli, 360.
Dangerous Visits, xli, 179.
Danger in Kerosene Oil, vii, 203.
Danger of Upturning Soil, C. W. Chancellor, *et al.*, xiv, 499.
Danger in Workshops, Wolfberg, xi, 373.
Dangerous Advice About Cellars, vi, 42.
Dangerous Ballasts, i, 185.
Dangerous Flies, xxxiii, 92.

Dangerous Funerals, vi, 374.
Dangers of Childhood, Horatio Donkin, viii, 38.
Daniel, F. E., The Demon Alcohol, xl, 36.
Dansville Rest Cure, vi, 288.
Darby, F. H., Condensed Milk, xvi, 495; Care of Chronic Insane, xviii, 269; Children's Homes and Orphan Asylums, xx, 223.
Dark Sleeping Rooms, xxxiii, 351.
Darlington, T., A Case of Aneurism, xliii, 33.
Darwinism So Far a Failure, Virchow, xxviii, 359.
Daudet's Struggles with Poverty, xliv, 91.
Davenport, B. F., Adulteration of Food and Drugs, xiii, 431.
Davidson, A., The Malarial Problem in the Light of Epidemiology, xlii, 498.
Davidson, J. P., Address, A. P. H. A., ix, 3.
Davis, N. S., Alcohol and Other Anesthetics, xxxv, 389; Does Alcohol Ever Act as Food?—*ibid.*, 42; Jenner and the History of His Discovery of Vaccination, xxxvi, 514; Prognosis in Valvular Affections of the Heart, xliii, 29.
Davis, C. E., Observations in Honolulu, xliv, 220.
Davis, A. M. F., College Athletics, xi, 264.
Davis, W., Kumyssen, xxix, 420.
Davies, Wm. G., Mysterious Disappearances, Etc., in Insurance Cases, iv, 165.
Day, H., Ozone in Relation to Health, vii, 205.
Day, R., Unsanitary Effects of Overflow of Mississippi River, xix, 195.
Daylight in the Dwelling-house, John Brett, xxx, 401.
Dayton Board of Health Report, vii, 278; viii, 565.
Dead, New System of Burying the, Mayer, xi, 184.
Dead, The Reputation of, a Coroner's Pronouncement, xxx, 422.
Dead, The Empire of the, Clark, xlv, 380.
Dead, Vital Statistics and Regulations for the Disposal of the, xlvii, 35.
Dead Beats, xxxvi, 287.
Deaf Mute Education, xxxix, 185.
Dean, R. C., U. S. S. Plymouth, viii, 550.
Death, Causes of, xxxvi, 275.
Death in a Damp Cellar, i, 220.
Death and Burial in China, xxi, 223.
Death in the Dishcloth, vi, 164.
Death, Absolute Signs of, xxiii, 47; Causes of Among the Gouty, 86; Soothed to Death, xi, 671; Wholesale and Retail, xviii, 531.

Death in the Cup, xxxv, 73.
Death Certificates, The Uncertainty of, xlv, 175.
Death, Curious Cause of, xlvii, 505.
Death, The Fear of, xl, 93.
Death, Prevention of Disease and, H. B. Baker, xxx, 508.
Death, Never Comes, Where, xxxvii, 285.
Death, Signs and Tests of, Herold, xliii, 238.
Death Rates, vi: 41, 91, 139, 187, 236, 285, 332, 370, 415, 467, 523, 567—Foreign, 41, 91, 139, 187, 236, 378, 421, 468, 522 and more or less comprehensively, monthly, in every volume; Reduction of, x, 670; Recent Decline in the English, xi, 40; xiii, 179; Reflections on the, Samuel Haughton, xx, 22; Death Rate and Intoxicating Liquors, xxiii, 38; in Scotland, Fyfe, xxviii, 537; Effect of Filth on, xxxi, 91; Death Rates Among Insured Children, xxxvi, 121; xxxvii, 452; xlv, 176; Death Rate in Tuberculosis, xliii, 182; Highest in the World, xlvi, 558.
Deaths from Entering a Cesspool, vii, 464.
Deaths Under Anæsthetics, xxxi, 62.
Debtor's Excuse, A Church, xxxviii, 141.
De Chaumont, F.S.B.F., Bread, vii, 125; Thirty Years' Progress of Sanitary Reform in England, xv, 385.
Decomposition, ii, 316; of Albuminoid Substances, and Some Sanitary Problems Connected Therewith, Peter H. Bryce, xvii, 351; of Organic Matters, Effects of in Water, Charles Smart, xxii, 483.
Deecke, T., Simplified Water Analysis, xxiii, 235.

DEFECTIVE DRAINAGE, Moreau Morris, M.D.—A series of papers, describing the conditions and dangers of defective drainage, house and soil. "How few realize the danger to themselves and their families that lurks unseen and unheeded beneath and within their dwellings. No more forcible and true saying could be applied to these conditions than 'out of sight, out of mind.'"

"Nature's chemical laboratory, aided by germinating hot-houses supplied by art, is constantly eliminating most poisonous elements or germs which under certain favoring circumstances rarely fail to produce disastrous effects. Do medical men always recognize the important bearing such conditions may be exerting upon their feverish, languishing and debilitating patients? Practical sanitarians have at this day become fully alive to these dangers and are so conversant with their effects that almost the first inquiry is regarding the local drainage or sewerage; and the discovery, per-

haps, of some long-forgotten water course, defective drain or sewer rarely fails to corroborate their suspicions.

"The sanitary condition of any locality, be it village, town or city, requires that its *drainage* should be first looked after." The evidences of defective drainage, how to discover them, how to remedy them and how to secure and perpetuate drainage in all its details are described and illustrated by appliances, maps and charts, i, 49, 97, 303, 535.

Defective House Drainage, Leopold Brandeis, i, 447.
Drainage for Health on Bay Ridge, Law for, i, 514.
Defective Drainage in the State of N. Y., A. N. Bell, *et al.*, i, 529.
Drainage, Natural, How to Aid, Joseph Wilson, ii, 1.
Drainage, Health Relations to, S. G. Parker, ii, 124, 172.
Defective Drainage as a Cause of Disease in the State of N. Y., Report of Committee of State Medical Society, 551; ditto, iii, 19; House Drainage, James C. Bayles, 49; Drainage and Water Supply in North Carolina, W. C. Kerr, iv, 39; Defective Drainage and Some Remedies for it, Vanderveer, xi, 552, 581.
Defective Nutrition in Children, Jerome Walker, iii, 108, 172.
Defilements of New York Harbor, E. F. Peck, viii, 425.
Deformities and Their Relation to Hygiene, T. P. Corbally, iv, 385, 433; Cosmetics and High-heeled Boots, v, 73; Hip-joint Disease, 214.
Degeneracy in Small Towns, Causes of, xxxviii, 192.
Degenerate Families, xl, 94.
D'Homergne, L. C., Utilization of Garbage, xxxii, 227.
De Kay, C., Berlin Tenement Houses, xxxv, 222.
Deland Judson, Beri-Beri, xxxiii, 304.
De Lesseps Canal, viii, 465.
Delirium Tremens, xxiv, 184.
De Long and Comrades, Removal of the Bodies of, x, 555.
Demand, A Sweeping, xlv, 95.
Dembo, Dr., Jewish and Christian Butchery, xxxv, 64.
Demerara, Mortality in, xxxix, 177.
Demography and Statistics in Their Sanitary Relations, Wilbur, xliii, 529; xlv, 510.
Demons, M., Cancer of the Colon, xxxiv, 170.
Dengue in Syria, Wortabet, xix, 203.

THE SANITARIAN.

MAY, 1902.

NUMBER 390.

PURE FOOD AND PURE DRUGS.

"BILL FOR PREVENTING THE ADULTERATION, MISBRANDING, AND IMITATION OF FOODS, BEVERAGES, CANDIES, DRUGS, AND CONDIMENTS IN THE DISTRICT OF COLUMBIA AND THE TERRITORIES, AND FOR REGULATING INSTERSTATE TRAFFIC THEREIN, AND FOR OTHER PURPOSES," as amended and, at the time of this writing, on its passage, is as follows:

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That for the purpose of protecting the commerce in food products and drugs between the several States and in the District of Columbia and the Territories of the United States and with foreign countries, the Secretary of Agriculture shall organize the Chemical Division of the Department of Agriculture into a bureau of chemistry, which shall have the direction of the chemical work of the present Division of Chemistry and of the chemical work of the other Executive Departments whose respective heads may apply to the Secretary of Agriculture for such collaboration, and which shall also be charged with the inspection of food and drug products, as hereinafter provided in this Act. The Secretary of Agriculture shall make necessary rules and regulations for carrying out the provisions of this Act, under which the director of the bureau of chemistry shall procure from time to time, or cause to be procured, and analyze, or cause to be analyzed or examined, chemically, microscopically, or otherwise, samples of foods and drugs offered for sale in original unbroken packages in the District of Columbia, in any Territory, or in any State other than that in which they shall have been respectively manufactured or produced, or from a foreign country, or intended for export to a foreign country. The Secretary of Agriculture is hereby authorized to employ such chemists, inspectors, clerks, laborers, and other employees as may be necessary to carry out the provisions

of this Act and to make such publication of the results of examinations and analyses as he may deem proper.

SEC. 2. That the introduction into any State or Territory or the District of Columbia from any other State or Territory or the District of Columbia, or from any foreign country, or shipment to any foreign country of any article of food or drugs which is adulterated or misbranded, within the meaning of this Act, is hereby prohibited; and any person who shall ship or deliver for shipment from any State or Territory or the District of Columbia to any other State or Territory or the District of Columbia, or to a foreign country, or who shall receive in any State or Territory or the District of Columbia from any other State or Territory or the District of Columbia, or foreign country, or who, having received, shall deliver, in original unbroken packages, for pay or otherwise, or offer to deliver to any other person, any such article so adulterated or misbranded within the meaning of this Act, or any person who shall sell or offer for sale in the District of Columbia or the Territories of the United States such adulterated, mixed, misbranded, or imitated foods or drugs, or export or offer to export the same to any foreign country, shall be guilty of a misdemeanor, and for such offense be fined not exceeding two hundred dollars for the first offense and for each subsequent offense not exceeding three hundred dollars or be imprisoned not exceeding one year, or both, in the discretion of the court.

SEC. 3. That the director of the bureau of chemistry shall make, or cause to be made, under rules and regulations to be prescribed by the Secretary of Agriculture, examinations of specimens of foods and drugs offered for sale in original unbroken packages in the District of Columbia, in any Territory, or in any State other than that in which they shall have been respectively manufactured or produced, or from any foreign country, or intended for shipment to any foreign country, which may be collected from time to time in various parts of the country. If it shall appear from any such examination that any of the provisions of this Act have been violated, the Secretary of Agriculture shall at once certify the facts to the proper United States district attorney, with a copy of the results of the analysis, duly authenticated by the analyst under oath.

SEC. 4. That it shall be the duty of every district attorney to whom the Secretary of Agriculture shall report any violation of this Act to cause proceedings to be commenced and prosecuted without delay for the fines and penalties in such case provided.

DEFINITIONS.

SEC. 5. That the term "drug," as used in this Act, shall include all medicines and preparations recognized in the United States Pharmacopœia for internal or external use. The term "food," as used herein, shall include all articles used for food, drink, confectionery, or condiment by man or domestic animals, whether simple, mixed, or compound. The term "misbranded," as used herein, shall apply to all drugs, or articles of food, or articles which enter into the composition of food, the package or label of which shall bear any statement regarding the ingredients or substances contained in such article, which statement shall be false or misleading in any particular, and to any food or drug product which is falsely branded as to the State, Territory, or country in which it is manufactured or produced.

ADULTERATIONS.

SEC. 6. That for the purposes of this Act an article shall be deemed to be adulterated—

In case of drugs:

First. If, when a drug is sold under or by a name recognized in the United States Pharmacopœia, it differs from the standard of strength, quality, or purity, as determined by the test laid down in the United States Pharmacopœia official at the time of the investigation.

Second. If its strength or purity fall below the professed standard under which it is sold.

Third. If it be an imitation of or offered for sale under the name of another article.

In the case of confectionery:

If it contain terra-alba, barytes, talc, chrome yellow, or other mineral substances or poisonous colors or flavors, or other ingredients deleterious or detrimental to health.

In the case of food:

First. If any substance or substances has or have been mixed and packed with it so as to reduce or lower or injuriously affect its quality or strength, so that such product, when offered for sale, shall deceive or tend to deceive the purchaser.

Second. If any substance or substances has or have been substituted wholly or in part for the article, so that the product, when sold, shall deceive or tend to deceive the purchaser.

Third. If any valuable constituent of the article has been wholly

or in part abstracted, so that the product, when sold, shall deceive or tend to deceive the purchaser.

Fourth. If it be an imitation of or offered for sale under the distinctive name of another article: *Provided,* That the term "distinctive name" shall not be construed as applying to any article sold or offered for sale under a name that has come into general use to indicate the class or kind of the article if the name be accompanied on the same label or brand with a statement of the place where said article has been manufactured or produced.

Fifth. If it be mixed, colored, powdered, or stained in a manner whereby damage or inferiority is concealed, so that such product, when sold, shall deceive or tend to deceive the purchaser.

Sixth. If it contain any added poisonous ingredient or any ingredient which may render such article injurious to the health of the person consuming it.

Seventh. If it be labeled or branded with intent so as to deceive or mislead the purchaser, or purport to be a foreign product when not so, or is an imitation, either in package or label, of another substance of a previously established name, or which has been trade-marked or patented.

Eighth. If it consists in whole or in part of a filthy, decomposed, or putrid animal or vegetable substance, or any portion of an animal unfit for food, whether manufactured or not, or if it is the product of a diseased animal or one that has died otherwise than by slaughter: *Provided,* That an article of food which does not contain any added poisonous or deleterious ingredients shall not be deemed to be adulterated in the following cases:

First. In the case of mixtures or compounds which may be now or from time to time hereafter known as articles of food, under their own distinctive names, and not included in definition fourth of this section. Second. In the case of articles labeled, branded, or tagged so as to plainly indicate that they are mixtures, compounds, combinations, imitations, or blends: *Provided,* That the same shall be labeled, branded, or tagged so as to show the character and constituents thereof: *Provided further,* That substances which enter into the preparation or preservation of food and which change their chemical nature in the preparation of food shall be branded at the time of manufacture with the names of the resulting substances which are left in the food produced when ready for consumption, together with the name and address of the manufacturer: *And provided further,* That nothing in this Act shall be construed as requiring or compelling proprietors or manu-

facturers of proprietary foods which contain no unwholesome added ingredient to disclose their trade formulas, except in so far as the provisions of this Act may require to secure freedom from adulteration or imitation: *Provided further,* That no dealer shall be convicted under the provisions of this Act when he is able to prove a written guaranty of purity, in a form approved by the Secretary of Agriculture as published in his rules and regulations, signed by the manufacturer, or the party or parties from whom he purchased said articles: *Provided also,* That said guarantor or guarantors reside in the United States. Said guaranty shall contain the full name and address of the party or parties making the sale to the dealer, and said party or parties shall be amenable to the prosecutions, fines, and other penalties which would attach in due course to the dealer under the provisions of this Act.

SEC. 7. That it shall be the duty of the Secretary of Agriculture to fix standards of food products when advisable, and to determine the wholesomeness or unwholesomeness of preservatives and other substances which are or may be added to foods, and to aid him in reaching just decisions in such matters he is authorized to call upon the Director of the Bureau of Chemistry and the chairman of the committee on food standards of the Association of Official Agricultural Chemists, and such physicians, not less than five, as the President of the United States shall select, three of whom shall be from the Medical Departments of the Army, the Navy, and the Marine-Hospital Service, and not less than five experts to be selected by the Secretary of Agriculture by reason of their attainments in physiological chemistry, hygiene, commerce, and manufactures, to consider jointly the standards of all food products (within the meaning of this Act), and to study the effect of the preservatives and other substances added to food products on the health of the consumer; and when so determined and approved by the Secretary of Agriculture such standards shall guide the chemists of the Department of Agriculture in the performance of the duties imposed upon them by this Act. Such standards and determinations, when so fixed by the Secretary of Agriculture for the use of the chemists of the Department, may be read in evidence in the United States courts, but shall not be considered as determining the adulteration of any articles under section six of this Act. It shall be the duty of the Secretary of Agriculture, either directly or through the Director of the Bureau of Chemistry and the chairman of the committee on food standards of the Association of Official Agricultural Chemists and the medical officers and

experts before mentioned, to confer with and consult, when so requested, the duly accredited representatives of all industries producing articles for which standards shall be established under the provisions of this Act.

SEC. 8. That every person who manufactures or produces for shipment and delivers for transportation within the District of Columbia or any Territory, or who manufactures or produces for shipment or delivers for transportation from any State, Territory, or the District of Columbia, to any other State, Territory, or the District of Columbia, or to any foreign country, any drug or article of food, and every person who exposes for sale or delivers to a purchaser in the District of Columbia or any Territory any drug or article of food manufactured or produced within said District of Columbia or any Territory, or who exposes for sale or delivers for shipment any drug or article of food received from a State, Territory, or the District of Columbia other than the State, Territory, or the District of Columbia in which he exposes for sale or delivers such drug or article of food, or from any foreign country, shall furnish within business hours, and upon tender and full payment of the selling price, a sample of such drugs or articles of food to any person duly authorized by the Secretary of Agriculture to receive the same and who shall apply to such manufacturer, producer, or vender, or person delivering to a purchaser such drug or article of food, for such sample for such use, in sufficient quantity for the analysis of any such article or articles in his possession. And in the presence of such dealer and an agent of the Department of Agriculture, if so desired by either party, said sample shall be divided into three parts, and each part shall be sealed by the seal of the Department of Agriculture. One part shall be left with the dealer, one delivered to the Director of the Bureau of Chemistry of the Department of Agriculture, and one deposited with the United States district attorney for the district in which the sample is taken. Said manufacturer, producer, or dealer may have the sample left with him analyzed at his own expense, and if the results of said analysis differ from those of the Department of Agriculture the sample in the hands of the district attorney may be analyzed at the expense of the said manufacturer or dealer by a third chemist, who shall be appointed by the president of the Association of Official Agricultural Chemists of the United States; and the analysis shall be conducted, if so desired, in the presence of a chemist of the Department of Agriculture and a chemist rep-

resenting the dealer, and the whole data obtained shall be laid before the court.

SEC. 9. That any manufacturer, producer, or dealer who refuses to comply, upon demand, with the requirements of section eight of this Act shall be guilty of a misdemeanor, and upon conviction shall be fined not exceeding one hundred dollars, or imprisonment not exceeding one hundred days, or both. And any person found guilty of manufacturing or offering for sale, or selling, an adulterated, impure, or misbranded article of food or drug in violation of the provisions of this Act shall be adjudged to pay, in addition to the penalties hereinbefore provided for, all the necessary costs and expenses incurred in inspecting and analyzing such adulterated articles which said person may have been found guilty of manufacturing, selling, or offering for sale.

SEC. 10. That this Act shall not be construed to interfere with commerce wholly internal in any State, nor with the exercise of their police powers by the several States: *Provided further,* That nothing in this Act shall be construed to interfere with legislation now in force, enacted either by Congress for the District of Columbia or by the Territorial legislatures for the several Territories, regulating commerce in adulterated foods within the District of Columbia and the several Territories.

SEC. 11. That any article of food or drug that is adulterated or misbranded within the meaning of this Act, and is transported or being transported from one State to another for sale, or if it be sold or offered for sale in the District of Columbia and the Territories of the United States, or if it be imported from a foreign country for sale, or if intended for export to a foreign country, shall be liable to be proceeded against in any district court of the United States, within the district where the same is found and seized for confiscation, by a process of libel for condemnation. And if such article is condemned as being adulterated the same shall be disposed of as the said court may direct, and the proceeds thereof, if sold, less the legal costs and charges, shall be paid into the Treasury of the United States, but such goods shall not be sold in any State contrary to the laws of that State. The proceedings of such libel cases shall conform, as near as may be, to proceedings in admiralty, except that either party may demand trial by jury of any issue of fact joined in such case; and all such proceedings shall be at the suit of and in the name of the United States.

THE DANGER OF USING BIOLOGICAL ANALOGIES IN REASONING ON EDUCATIONAL SUBJECTS.

By Dr. W. T. Harris, U. S. Commissioner of Education.

For many years I have been attracted and afterward repelled by one theory and another relating to education, which undertook to reason from the body to the mind—from the brain to the soul—from the events of animal life to the events of spiritual life—and to explain the latter through the former. The attempt to reform the school in some particular by the light of physiology or by phrenology, or by the study of pre-historic beginnings of civilization, has often been successful; but quite as often it has been unsuccessful. In the former case some waste of bodily power has been prevented; in the latter case some more important spiritual power has been dwarfed or paralyzed to gain some less valuable advantage for the body.

When one first begins to think on a subject which has hitherto been purely a matter of routine and tradition with him, he falls too readily into a habit of criticism of the established order and condemns with undue haste. As a consequence, his corrections and would-be reforms all need readjustment to prevent them from doing more harm than good; for he has seen only one evil out of many, or only one phase of an evil instead of the whole of it. On this account he may, by removing one evil, let in another and worse evil that has been held in check by the choice of the less noxious one.

I must confess, with a degree of sadness, that I have become from year to year more skeptical in regard to reforms advocated in the name of school hygiene. Not that I doubt the importance of hygiene, but rather that I doubt the attainments of those who talk so glibly about it; for I see them unduly securing minor advantages at the expense of great and permanent injuries to health and normal growth.

The schoolhouse, at first, was only a slight modification on the dwelling house. There was light and ventilation sufficient for two, three, or four persons in the room. The dark parts of the room were light enough for many purposes of housework, and if one wished to read or to sew or perform the work of cleansing or separating such articles of food as had been ground and needed

sifting, or as were composed of small grains or kernels, and needed picking over, a seat near the window secured the requisite light.

But the school needed a room lighted in all parts, as nearly equal as possible, and with a constant supply of fresh air, heated properly. It was gradually discovered that the room of the dwelling house was poorly adapted for school purposes. Some pupils got too little light and became near-sighted by holding their books too close to their eyes; some came to have weak eyes by having too much light. For the glare of a page on which the sunlight falls is sufficient to produce partial blindness. Even pure skylight, without the direct rays of the sun, will tend to do this. Many have been the so-called improvements which, in correcting the evil of insufficient light, ignored entirely the great injury done to those pupils who sat in the full glare of the sun or of the clear sky, and for hours, each day, tried their eyes on perceiving letters and figures in small print. I need not speak here of the various attempts to light the room from the front of the pupil, forcing him to strain his eyes in order to make out the words of the page when seen in the direction of the source of light; the experiment of lighting from two sides, the left and the right sides, with its attendant impossibility of getting the light upon the book from either side without at the same time facing the light on the other side. The light was tried from the right side alone and the pupil had to have the shadow of his hand on the place where he was writing. Light from the left and rear came at last to be adopted with much unanimity by educational experts in this country in 1876. But the tendency to make large buildings has since that time permitted and encouraged the construction of the schoolhouses with one-half of the rooms lighted from one side only; this, too, without due consideration of the relation between the height of the tops of the windows and the width of the room. The consequence of this is that most of our cities have schoolrooms in which there is a row of desks where pupils sit in a twilight and acquire the habit of holding their books too near the eyes; and another row of desks where the pupils have the glare of light that I have described and the effort of nature to adjust the retina to the overplus of light dims the power of vision below the normal standard.

In the schoolroom of a building altered over from a dwelling house there is also another attendant evil. The pupils in a row of seats placed directly under the windows are exposed, in cold weather, to chilling currents of air which are constantly flowing

down the sides of the wall and especially down the window surface. Children not of robust constitution often lay the foundation of much bodily disease in this way. Improper lighting, by reason of the sympathy of the eyes with the stomach, produces in pupils of delicate constitution a tendency to nervous dyspepsia. Indeed, the errors in lighting and in avoiding draughts of cold air seem to me so serious that I cannot listen patiently to those who praise the countless devices which are invented for one and another trifling advantage in the hygiene of the schoolroom. For it were better that they had not been discovered than to distract, as they do, the attention from the far weightier matters of light and temperature and ventilation.

One idea crowds out another in some cases, although in other cases one idea leads to or brings in another. The general idea suggests its applications. But the particular idea, having small scope, may get in the way of more fruitful ideas. We have to measure ideas as to their relative value and decide for ourselves which may properly give way to the other. For example, take the unhygienic school as it existed and now exists in the countries that are backward in this matter of school architecture, and we must admit that the great purposes of the school were secured and are secured in the log school house, in the dark, ill-ventilated tenement building rented for a school in a slum district, or in a mere shanty school in the west of Ireland. The great purpose of learning to know printed language, to become eye-minded instead of ear-minded, to gain besides one's colloquial vocabulary also a vocabulary of science and literature and philosophy—to become able to understand and use technical language—all these things came then and come now to the gifted youth without the improvements in hygiene that we clamor for. Abraham Lincoln read by the firelight of the blazing hearth and fed his mighty mind.

It is true that the average of life in those unhygienic days was far less than now. But the illiterate savage does not reach a life average so great as the unhygienic, but civilized man, and what is more to the point, fifty years of Europe is worth a cycle of Cathay. A rational life, growing in the production of science, and art and literature, and in diffusing the blessing of civilization, is better than a savage life, even if the latter were to have an average of eighty years, while the former were to have an average of thirty years. According to the merely biologic point of view, life is life, whether of plant or animal or man, and the more of it the better. But such is not the spiritual point of view.

Some years ago Max Mueller wrote up the theory of the sun-myth as found in the beginnings of mythology. The stories of the heathen gods were thinly veiled allegories of the solar year, or of the four seasons, or of the diurnal revolution. The words signifying divine things are originally words describing the phenomena connected with the progress of the sun in the equinox or through the hours of day and night. Later on, the sun-myth theory was used to explain all religion. It is all founded on sun-myths. The conclusion was drawn by many devotees to philologues that the basis of religion is only a personification of natural phenomena, and that there is no reality corresponding to religious conceptions. It was said that the sun-myth is a disease of language. Then religion came to be regarded also by this school of philosophy as also a disease of language. Outsiders who observed this extension of the sun-myth theory began to expect that sooner or later the theory would be carried one step farther, and that philosophic thought would be declared to be a disease of language, and sure enough this appears to be the upshot of the book of Professor Max Mueller on the science of thought. This is made plausible by the following steps: The words of a language stand for classes and species of objects, and not for mere individuals. "John is a boy," says that John belongs to the class of beings known as boy. The word "is" has universal significance, as copula expressing subsumption; the article "a" expresses the general concept "one of," and even the word "John" says any boy who is called John. We have to add to language a meaning of our own to make it apply to a particular individual being, and no one person's meaning of a word is absolutely what another person means by it.

Now add to this view another one with reference to the nature of objects that exist, namely, that all that exists is composed of some one or more definite things—that only particular individuals exist—and that language has made all its words stand for general classes of beings, actions and relations, and in so doing has made it entirely symbolical, instead of corresponding literally and in detail to reality; and we now begin to see where we are going. It is only one step to the conclusion that all general thought relations rest on the scaffolding of language, and are baseless as regards their truth. Generalizations of thought regarding the world and its destiny are the product of a disease of language. In fact, we might as well call language itself a disease.

But where can we stop? If the anthropoid ape invented the

disease of language, his animal relatives who could not yet talk were not for that reason any more healthy; for all animal life is a disease as compared with plant life. The animal feels, perceives with his senses, and acts by impulse or instinct. To feel is to set up an activity within a self, and after a sort to make one's self an object, or, so to speak, to exist for one's self. Hence to perceive other beings is to represent them by one's own activity, and thus to create within one's self a semblance of other realities. Perception thus rests upon creating within the perceiving being an appearance or semblance of a reality.

This is almost as bad a disease as language is, and we may see that the misfortune of language goes farther back and attaches to sense-perception itself; for the animal that feels or perceives makes for himself an image or representation, in fact, a seeming or make-believe or some sort of untruth to stand for the reality.

The plant, it would seem, does not feel nor perceive nor move itself. It does not, like the animal, "dally with false surmise." It feeds on its environment, however. Its life is a life of assimilation and nutrition. The plant is engaged in seizing upon its environment and converting it into vegetable cells and adding them to its own structure. Here we have reached soundness and health at last, for we have realities at every step. We have the plant a reality, which acts upon inorganic substances in the soil and the air, and, gathering them to itself, makes them over into vegetable cells of its own kind or species. But after the plant has thus acted it has destroyed the individuality that previously existed in that part of its environment now appropriated for food. It has annulled other individuality to build up its own. What was real as carbon and oxygen and silica and soda no longer is real in that form. As real, they are united and converted into organic compounds that form the cells of the plant. As ideal, they may be still only carbon and oxygen and silica and soda. If the plant dies its vegetable cells will be captured by inorganic forces, and these elements (carbon, oxygen, silica and soda) will reappear in their old form.

Here we have to ask whether the plant life is not itself also a disease. Is it not a masquerade? Does it not act to enshroud the inorganic matter in new forms, making it as vegetable cells possess entirely new properties and lose its old properties? Does it not, after the death of the plant, let the old individuality of the elements reappear? But which is the true reality under the appearance—is it the inorganic elements or the organic compounds?

Why should we not say, then, that the inorganic is a state of helpless abstraction, in which it does not realize its true being? And is it not the life of the plant that lifts up the inorganic into a higher and more concrete and perfect form of existence, wherein the inorganic elements reveal the wondrous possibilities that were in them, but not made manifest or brought into actual reality?

And again, if the inorganic is only itself a masquerade hiding its higher life until by the aid of the plant it comes to actualize or make real its true self, why shall we not say that the plant, also, takes on a higher form of realization when it, in turn, becomes feeling, perceiving and willing, on being taken up into the animal organism? For the representation of another existence than one's own is, after all, a higher form of reality for the being that it represents; for the inorganic does not fully realize itself until it comes in the plant and the animal to show what syntheses it is capable of, and in what ways it can be instrumental in the process of self-representation. Self-representation in the form of feeling is, indeed, something that belongs to the order of the miraculous as looked at from the standpoint of the inorganic—it stubbornly resists a mechanical explanation.

But now, if we admit this new view of the subject, we must go farther and claim that man, by inventing language, creates a still more wonderful reality; for he produces a sort of counterpart to the general process that appears in chemism, in plant life, and in animal sensation. He gives an appropriate form to universals. Words make fast the fleeting manifestation that goes on in the lower orders of being. Words as tools of thought make possible the grasp of a deeper reality in the universe, which the inorganic cannot compass, nor the plant, nor the mere animal; for thought can grasp the process in which the individuality of the lower order of beings is immersed. Thought can perceive particular things in their causes, and it can think a unity of all causes in a final cause.

We have to return to our first statement of the statement of the philologists, and, entering our protest, say, therefore, that religion is not a disease of language, nor a disease of any kind. But religion is an insight into the final and deepest order of being—the truth which is under all seeming or imperfect being, whether inorganic or plant or animal or human.

Neither is thought to be called a disease of language because it deals with generalities. For the general process which is revealed in the changes that inorganic matter undergoes, and which take on new forms in plant and animal life, is first seized as the

deeper reality by philosophic thought, becomes possible through language. Thought reaches this deeper reality underlying all actualities, and it joins the voice of religion in saying that the deeper reality is a divine personal reason that reveals itself in the world; that absolute reason has a divine purpose, which is the creation of personal beings—training them to individuality in the cradle of time and space.

In the light of this divine purpose all imperfect realizations, such as the inorganic, may be seen to be more or less appearances, having each some fragmentary or imperfect form of being that does not fully and adequately explain itself, although each step above the inorganic is a nearer approach to the absolute reality. Reversing the biologic standpoint, those lower forms of existence may be called diseased. Plants, just because they do not possess feeling and sensation, may be said to be diseased. Then, too, the animal, who is less deeply diseased because he possesses sensation and locomotion, as well as nutrition—the animal is diseased because he does not possess language. He cannot reach religion or thought.

But man is more healthy and less diseased than any other being on earth, because he can form some adequate idea of the divine purpose of the world, and by that reach ultimate ideals through which to guide his life. By his thought he can see what the fullness of reality means.

According to biology as it is, many, or, indeed, all, of the higher facts and activities of man may be regarded as diseases of vital functions. But, on the same ground, life itself may be regarded as a disease forced on the inorganic.

This use of the analogy, however, which makes life itself a disease, leads us to suspect the truth of the biologic view of religion and philosophy, and suggests to us the necessity of turning round the measuring process. We must interpret the lower from the standpoint of the higher. The lower is the incomplete and imperfect being. The higher is the more realized being, the more perfect, and it explains to us the existence of the lower by showing its purpose.

The analogy of the lower order of being does not suffice to explain the higher orders of being. The scale must be inverted before the human can be understood.—"Journal of Education," March 13, 1902.

COSMOPOLITAN HEALTH STUDIES.*

By F. L. Oswald, M.D.,
Author of "Physical Education," "The Remedies of Nature," Etc.

VIII.—ITALY.

Italy, the lost Eden of the Mediterranean, is a country of curious contrasts, a land of abject pauperism and super-refined luxury, of contented ignorance and restlessly inquisitive science, and of sanitary customs, varying from indolent tolerance to the most vigorous enforcement of red-tape regulations.

The quarantine of the northern seaports is the strictest in Europe. Neglect of any one of the endless formalities can forfeit the clearance papers of a vessel otherwise as inauspicious as a new-built and clean-looking pleasure yacht.

The very fishing-smacks are overhauled every time they enter and leave port, and some of the sanitary by-laws are vexatious enough to defeat their own purpose. Picking up a shipwrecked crew at sea subjects the rescuers to the trouble of a return-trip to the next quarantine port, with the risk of protracted detention. As a natural consequence, signals of distress are apt to be ignored if there is any chance of shifting the burden of the responsibility on the next comer, a big passenger steamer, perhaps, with experts able to bring the red-tape bullies to terms.

But the hygienic departments of the interior carry the Let Alone principle to equally remarkable extremes. In Naples there are beggar-alleys practically exempt from the visits of health-inspectors, and unmolested by tax-collectors as long as the *guild* (corporation, trade union) of mendicants furnishes a few weekly volunteers to the street-sweeping department. Like slander-mongers, these delegates clean other people's sidewalks, but not their own. While they are about it, they prospect the neighborhood for convenient night-quarters, and when summer heat makes their dens untenable, are permitted to sleep under the porticos of public buildings or in the vestibules of chapels and charitable establishments.

Their children haunt the Basso Porte (pronounced Basho Purt', in the local patois), running races along the wharves in the costume of the Nereids, or paddling about in quest of garbage. Bal-

*Continued from page 314.

anced on the center of their home-made rafts rises a tub, perforated like the battery turret of a monitor. Dipper after dipper full of edible miscellanies is thus transferred from the scum of the harbor-waters to a receptacle gauged for four or five gallons, and incidentally answering the purpose of a sieve.

Decadent apples, stale cabbage-leaves, imperfectly scraped tin-cans, egg-shells with a residuum of bottom facts, even potato peels and macaroni of a flavor not improved by an infusion of bilge-water: the witchcraft of domestic chemistry will metamorphose them into a fairly palatable and not wholly indigestible stew. The juvenile forager also keeps an eye on floating bits of fuel, and concludes his day's work at 2 p. m., with the proud consciousness of having kept the family-pot boiling. His younger brothers, in the meanwhile, have been exploiting the green-market for offal. And the paterfamilias? Gambling, probably, or begging. Or peddling a portion of his boy's collection for pig-feed, to raise the price of a lottery ticket. The police do not care. On the contrary, the ticket sales in the Ghetto are encouraged by the custom of admitting a Capo Lazarone—a Boss Loafer, we might translate him, to watch the drawings, and enhance the guarantee of fair play.

Still, the enormous traffic of the big city, almost precludes the risk of actual famine, and the *ne plus ultras* of South European misery have to be studied in the poor inland villages of Campania and Sicily. In regions, once favored by a perhaps unrivaled combination of fruitfulness and climatic amenities, beings of our species are now kept alive only by "refuse and the dread of death," as the Abbé Galiani expressed it. Dusty, dilapidated hamlets, nestling in some dell of the treeless hills; dust-storms, sand-storms, droughts, tinging everything in the same dreary gray; skeletonized paupers hoeing away, half hopelessly, in a sun-blistered potato field, blear-eyed children grubbing about dump-piles and defending their pre-emption rights against the encroachments of mangy curs.

No drinking-water in sight, but a well-worn trail to the bottom of the ravine, suggesting the existence of a spring or walled pool —probably the latter, forest-destruction having parched out the running waters of the uplands, centuries ago. An enormous area of southern Italy is now almost as treeless as northern Africa. Droughts can be only partially counteracted by irrigation, and ophthalmia is ominously prevalent.

The coast-dwellers are somewhat better off. The Mediter-

ranean, nourished by affluents of the forest-girt Euxine, still abounds with fish. Tunnies, by thousands of tons, are caught every year in net-works as elaborate as a Vauban circle of entrenchments. Turbots are captured alive, and barreled for future reference. Dolphins can hardly approach the coast without being either hooked or speared, and the genus *clupea,* the herring in half a dozen varieties, help to keep emigration within manageable limits. If it was not for the reliance on sea-food and rice, Italy would run the risk of depopulation, in spite of the miraculous frugality of the country population.

"*Pan e finocho me bastan,*" is a Calabrian phrase of the Never-Say-Die category; "I'll get along as long as I have——" What? *Pan* is bread; but *finocho?* No North American with an orthodox belief in three daily square meals would guess. Bacon? Cheese? Or, anyhow, something like syrup or honey? No, signor; fennel, Fennel-leaves and bread, solving the problem of existence to a man's satisfaction.

"A man's?" The cowboy variety of the *homo occidentalis* might ask with a sneer; but it is a noteworthy fact that in the horrors of the retreat from Moscow, the Italian contingent of the Grand Army recorded the lowest death-rate, and even in the ordeal of the last four fearful weeks survived hardships that killed 165,000 stout Teutons, Gauls and Slavs. Had mental energy made them affliction proof? The true explanation is probably that of Count Segur, who surmises that home hardships had steeled them against *any* tramontane experience, short of a fourteen-foot Cossack lance.

Northern Italy can furnish dietetic experts for the predicted era of over-population, when the children of earth will have to feed on tree-products, as Dr. Hufeland warns us. Olive-oil, to a large extent, takes the place of butter, and *polenta,* or chestnut meal, of wheat and rye flour.

Polenta, a sort of "nut-food" before the Michigan boom, is said to agree with stomachs that rebel against cereals, and on the same area of land where wheat could yield a bushel of meal, the *Castanea Pontica,* in thickset groves, will yield seven. But the advantage does not end there. Wheat, barley and corn have to be replanted every year, their land has to be replowed, reweeded and fertilized, while a grove of nut-trees not only takes care of itself, but improves from year to year, for a series of centuries, the age of the castani de cente cavalli, at the foot of Mount Etna, being estimated at more than a thousand years.

Still, rations can hardly be made to reach around, without inroads on the animal kingdom, and the race of feathered songsters has been almost exterminated by the activity of omnipresent fowlers. Every Lombard granger, every Calabrian herder, every charcoal burner of the upper Apennines owns a decoy owl or two, and devours all the small birds he can catch. He will swallow the very swallows, and might quote the Emperor Vitellius on the question of nightingale stews. The fondness for ortolans (a species of yellow hummer) has survived the classic ages, but the strange passion for dormouse suppers seems to have been abated by the exhaustion of the supply. The mountain dormouse (*Glis myoxus* —something between a woodrat and a small squirrel) was once the object of a demand that caused speculators to cover acres of ground with wire cages, tier above tier, each little partition furnished with hay or soft moss for the accommodation of a rat-family. Tidbits were lavished till the diameter of the recipients threatened to exceed that of the door.

The natives of modern Italy would not take a dormouse stew for a gift. In stress of circumstances a fowler might boil his own owl, but would continue to draw the line at rats.

Enigmas of dietetic caprice! Italians who would chaw up a handful of onions straight, shudder at our admixture of coffee and milk. They are not overfond of cow's milk, anyhow, but mixed with coffee? Una vera cochineria. Japanese share that prejudice in an exaggerated degree, and would not drink beasts' milk of any kind, to save themselves from starving.

On the Island of Corsica the peril of over-population has led to a peculiar, and in Europe perhaps, unique result; viz., an association that might be defined as a Society for the Prevention of Early Marriages. Beardless rustics, contemplating a plunge into matrimonial responsibilities, are visited by a committee of conservative neighbors, and warned first of the natural consequences of their reckless project and the baneful tendency of their disregard for the welfare of the parish, but, as a last resort, are threatened with a boycott, persistent enough to enforce their departure from the neighborhood.

The menace is comprehensive, for illegitimate alliances are said to be scarcely more prevalent than elsewhere. Twenty-five years is the usual limit; in some specially pauper-ridden parts of the island, thirty years and a guarantee of self-support are the conditions of peace. Here, though, as elsewhere, wealth can throw tubs to the whale of conservatism, and in Port Calvi a prosperous

manufacturer not long ago purchased a pragmatic sanction by a significant gift: A donation to the endowment fund of a local foundling asylum.

In the south provinces the evil of premature marriage has outgrown control. In spite of hard times, in spite of discontent and crushing taxes, the population of the peninsula is increasing at a portentous rate, and political economists have predicted famine as fearful as those of British India. The Campanian poor-houses are all overcrowded, and the hospitals of some districts have to turn away half the applicants and compromise matters by offering them the free services of "visiting physicians." It is a curious fact that the preponderance of pulmonary disorders has shifted from the north to the south. Time was when southern Italy was a pastoral country and Piedmond a hive of manufacturing enterprise. The north-enders have now gone into horticulture and what our Yankees call intensive farming, while the cities of the south are getting shrouded in the smoke of textile factories. Silk, especially, is now woven where the caterpillars spin it, and towns like Caserta are studded with cotton-mills. Blizzards can prove an alibi in an impeachment for the introduction of Koch microbes. South of Naples winter is nothing but a mild rainy season, interwoven with weeks of halcyon weather; but factory dust has turned the scales against all benignities of climate. In Sicily, too, the percentage of lung-disorders is incomparably much larger than on the Island of Chiloe, where sleet-storms rage almost perennially, and the half-naked natives shiver the year round, but persist in shivering outdoors.

Yet air and sun (*vd.* Webster) are included among the factors associated with the causes of a strange disorder known as *pellagra* —a sort of leprosy, endemic in some parts of the Italian Alps. It begins on the face and hands, then gradually spreads heartward, and eventually involves all sorts of distressing mental symptoms. Only a week ago (March 25, 1902) three cases of suicide, "due to pellagra dementation," were reported from the neighborhood of Ossola, on the Tyrolese border. The affection was well known in the native mountains of the Swiss physiologist, Haller, who ascribed it to "mineral infusion of drinking water." The Italian peasants, under the bias of their disposition to blame laws and kings for all their earthly woes, have a curious theory of their own: Pellagra, like various other germ-diseases, they think, is due to the grievous salt-tax that obliges the poor almost to dispense with the antiseptic condiment.

The tax is certainly exorbitant enough to raise the normal price of salt several hundred per cent., and has driven the country population to all sorts of queer substitutes, such as citron-juice and powdered cheese.

Epidemics of suicide occur, however, in all parts of the peninsula, and among the natives of the Ghetto, the lazar quarter of Naples, now and then take the form of a rush for the deep-water docks of the Basso Porte. As usual, the deepest depths of wretchedness preclude even that expedient, and the natives of the ophthalmia stricken sand-hill hamlets submit to misery with a sort of stolid despair.

But there is another Italy, the Italy of the Galianis, Gambas and Cavours, a civilization recalling mementos of the time when the social atmosphere of Europe was not yet tainted with the poison-fumes of Buddhism, when true aristocrats loved temperance for its own sake, but detested self-torture and sympathized with the pursuit of earthly happiness in all its forms. It was that social sunshine that attracted Byron and other refugees from the slander-mongering bigotry of Fogy-land, and emboldened a Florentine author to vaunt the culture of his native country as the nearest latter-day approach to the ideals of classic antiquity.

The chariots of five successive hordes of conquerors have harrowed the land of Virgil in all directions; but the ethnological consequences have furnished an unrivalled opportunity for testing Professor Kohl's theory of rare mixtures.

Goths, Lombards, Huns, Normans and Saracens, intermingled with Gauls and Roman-Etruscan aborigines, ought to have made the land teem with genius (best qualities inherited from both lines of ancestry), though also with ne-plus-ultra miscreants (worst qualities inherited from both sides). Tomas Campanella already advanced a hypothesis of that sort, and skepticism ought to have been silenced when ALL the first prices of the mental arena had been captured by Italians, or rather by offsprings of the Italian race-medley.

War: Napoleon and Garibaldi; nautical enterprise: Columbus; art: Rafael and Leonardo da Vinci; astronomy: Galileo; physics: Volta, Galvani; poetry: Dante; philology: Cardinal Mezzofanti, the "Briaræus of Linguistics," as Byron called him; diplomacy: Cavour; music: Rossini and (semi-Italian) Mozart; architecture: Michel Angelo.

Can that galaxy be an "accident of maximum brightness?" The

fifteenth century witnessed the rise of the grandest constellations. The Norman addition had found time to assert its influence.

In the course of the next two hundred years the mixture became homogeneous again, and unproductive, and for a while seemed to originate little but new diseases.

Then came a revival, thanks, perhaps, to the increased facilities of travel that brought descendants of the Longabards in contact with the inheritors of Græco-Roman traces of classic culture. The result was, at best, only a flicker of the ancient flame; but Italy will forever remain memorable as the country where, for a thousand years, mental and physical health maintained their proudest temples.

(*To be continued.*)

REPLY OF PROF. E. NOCARD TO PROF. KOCH.*

I consider it a great honor to salute, in the name of French bacteriologists, the greatest bacteriologist of the whole world. To this tribute of admiration and respect I ask of this illustrious savant permission to make public acknowledgment of the gratitude which I expressed to him nearly ten years ago, on an occasion never to be forgotten, when I was able to judge of the elevation of his mind, the nobility of his character, and the rare goodness of his heart.†

A communication from Koch is always an event; that of to-day will go far and wide. Parts of it charm me and fill me with content; other parts trouble me—they appear to me full of danger.

I may be thought audacious to discuss the work of a master who is authority in all matters which concern bacteriology, and above all in regard to tuberculosis. I know that my intervention is somewhat dangerous. However, the interests at stake are so important, and the conclusions from Koch's work so fraught with grave consequences, that I cannot hesitate to respond to the invitation of our illustrious President, Lord Lister, to speak my sentiments on the subject.

That which pleases me in the communication of Koch is that he justifies in a clear manner the efforts of those who protest against

*Delivered in St. James' Hall, London, July 27, 1901, before the British Congress on Tuberculosis. Translated from "La Presse Médicale," July 27, 1901, by Mazyck P. Ravenel, M.D.

†Allusion is here made to the sympathetic devotion shown by Professor Koch to the French Commission, composed of Messrs Roux, Strauss, Nocard, and Thuillier, sent to Egypt in 1883 to study the epidemic of cholera. It will be remembered that in forty-eight hours Thuillier was carried off by the disease.

extreme methods in the prophylactic measures designed to protect the human race against the dangers of bovine tuberculosis. For some years a salutary reaction has taken place against the extreme measures at first adopted. The communication of Koch will accomplish this end. Perhaps it goes to extremes in the inverse sense, and I fear greatly that after having advised excessive and absurd measures against imaginary dangers people may now neglect to take precautions against the real dangers which exist for the public health in bovine tuberculosis.

I have always held—and recently again at the Berlin Congress on Tuberculosis—that bovine tuberculosis plays but a small part in the spread of human tuberculosis; but no matter how small this part may be, it is undeniable; and it would be making a great mistake to leave it out of consideration.

Koch has not succeeded in producing tuberculosis in cattle inoculated by various methods with cultures or material from human sources. He concludes from this that cattle are refractory to human tuberculosis; that man has nothing to fear from tuberculosis of cattle, and that it is useless to take precautions against it.

With all the respect due to the illustrious savant, but with all the strength of profound conviction, I wish to say that his experiments do not justify such conclusions.

It is a principle of the experimental method that negative results, however great their number, cannot outweigh positive facts. There exist positive facts proving that it is possible to infect cattle with tuberculous matter from man. The first of these are the experiments of my eminent master, Prof. Chauveau. I regret extremely that his duties prevented him from taking part in this congress. He could have presented them with the authority which belongs to a master of experimental medicine. I will endeavor to take his place and to show the value of these facts from the point of view which now engages us.

Among his numerous experiments on this subject there are four which are particularly strong, in which calves aged from five to ten months were infected by the digestive tract, or by intravenous injection, with tuberculous material from man (acute phthisis or caseous pneumonia). These four animals were killed at different times up to fifty-nine days, and at the autopsy showed very important lesions, manifestly the result of the experimental infection.

In two of the three calves infected by ingestion the lesions were confluent in the intestine, the mesenteric glands, and on the peritoneum. In the third calf, on the contrary, while there were

slight lesions of the abdominal organs, there existed very important ones in the glands related to the first part of the digestive tract, namely, the retropharyngeal and œsophageal glands.

Some will, no doubt, raise the objection to these experiments, that dating back to a period so far in the past when tuberculin was not known it was impossible to be sure that the calves used in the experiment were free from tuberculosis. Chauveau had foreseen this objection. He had chosen young calves for his experiments, because tuberculosis in calves is extremely rare. He procured these calves in a district where tuberculosis of cows was unknown, and finally in each experiment he preserved as controls an equal number of calves of the same age and origin, which were killed at the same time as the others, and were found to be absolutely free from tuberculosis.

Old as they may be, these experiments of Chauveau have on that account none the less value as positive facts against which negative experiments cannot prevail, however numerous they may be. Furthermore, several members of this congress are announced to communicate analogous facts with the proofs.

These facts prove that although it may be difficult to communicate human tuberculosis to cattle, it nevertheless succeeds at times. How can we explain these different results, apparently contradictory? It is difficult to do this with certainty, for we cannot pretend that we are able to reproduce exactly in our experiments all the conditions of natural infection. It is, however, possible to give a plausible explanation. It is a well-known general law that the gradual adaptation of any parasite to a medium, inert or living, in which it can succeed in developing, confers on it the aptitude to develop more easily in media like the first. This is true for the bacillus of tuberculosis as for all other microbes. We know how difficult it is to obtain the first growth of the bacillus of Koch even on the most favorable culture medium. The first culture is always thin and scanty, but when once accustomed to our culture medium it grows afterward quite quickly and abundantly. What is true of inert media is still more true, *a fortiori,* of living media. Everyone knows that the bacillus of "rouget du porc" develops with difficulty at first in the organism of the rabbit. In order to kill one rabbit with certainty it is necessary to inoculate three or four animals, and death only occurs after four or five days, sometimes longer; but by passing this microbe from rabbit to rabbit it rapidly acquires such a degree of virulence that it kills rabbits in a few hours. But this bacillus, although it becomes so virulent for rab-

bits, has lost all its virulence for swine, from which it comes originally; we can inoculate swine with large doses without killing them and even without making them sick.

What I have said of the bacillus of "rouget du porc" applies also, and nearly as exactly, to the trypanosoma of dourine in the horse. This parasite of a higher order is inoculable into dogs, the white mouse, and the white rat, among other animals. After some passages from mouse to mouse, or from rat to rat, it acquires such a degree of virulence that the animals die in a few days, showing an enormous number of trypanosomes in the blood. When, however, we inoculate the rat or mouse with this same trypanosoma after a certain number of passages through dogs, it no longer succeeds in killing them, nor does it make them sick. The prolonged adaptation of the trypanosoma to the organism of the dog causes it to lose its power of developing in the organism of the white mouse or white rat, but—a most curious thing—the trypanosoma of the dog remains always just as virulent for the horse.

Finally, I have shown that the tubercle bacillus from man or from cows cultivated in the peritoneal cavity of the chicken, protected from phagocytic action—thanks to the protection of a collodion sac—acquires, little by little, the characters of the avian tubercle bacillus, and becomes incapable of killing guinea-pigs, or kills them with lesions like those of avian tuberculosis.

All these facts lead me to think that the results obtained by Prof. Koch proceed from causes of the same kind. Cattle rarely take tuberculosis from man; but when, for some reason or other, the resistance of the cells is modified, diminished, or suppressed, the human bacillus can multiply and invade the organs of the subject in which the resistance has been overcome. After this the bacillus, adapted to its new surroundings, is able to develop in other healthy cattle, which would show themselves refractory to the action of this same bacillus if it came directly from man. Let us admit, for an instant, that cattle are really refractory to human tuberculosis: has one the right to conclude from this that the reverse is equally true? No! a hundred times, no! This would be contrary to all the principles of the experimental method. It would be, above all, contrary to facts. If experimental facts are lacking, and for cause, clinical facts abound which prove the possibility of the transmissibility to man of tuberculosis of cattle. Many have seen veterinarians who have wounded themselves while making autopsies on tuberculous cows. Some have got well, thanks to prompt and radical surgical intervention, such as our colleague

Jensen, of the Veterinary School of Copenhagen; others, less fortunate, have succumbed to the progressive evolution of the infection, such as our brethren Moses, of Weimar, and Thomas Walley, of the Royal Veterinary College of Edinburgh.

Furthermore, there exist numerous authentic instances of infection by the use of milk coming from cows with tuberculous mammitis. The best known and most authoritative concerns one of the daughters of Prof. Gosse, of Geneva. It has almost the value of an experiment.

Finally, the work of the great English hygienist, Thorne-Thorne, proves as well as evidence the reality and gravity of the danger. During fifty years the mortality from tuberculosis in England has diminished 45 per cent.; during this same time abdominal tuberculosis of infants has increased 27 per cent. How can we explain these figures, so different? It is only for the last fifty years that you have done much in this country toward the cleansing of the house, the workshop, public places; lessening in this way the chances of infection by means of the respiratory tract, much the most common mode for adults; but you have done nothing against the dangers of infection by the digestive tract, which is the most frequent method for children artificially nourished.

Thorne-Thorne does not hesitate to attribute the increase of tuberculosis in young children to the absence of all regulations in regard to the dairy, and of all measures prohibiting the use of milk coming from cows with tuberculosis of the udder. All those who study this question of milk agree with the opinion of Thorne-Thorne. It is for these reasons that I will continue to teach to-day as yesterday—"Mothers of families, do not give milk to your babies unless the milk has been boiled."—"Journal of Comparative Medicine and Veterinary Archives."

MEDICAL EXCERPT.

By T. P. Corbally, A.M., M.D.

Asphyxia from Gas in Cess-Pools.—M. Hanriot has shown by complete analysis in a report to the Académie des Sciences (Le Progrès Médical), March 8, 1902, that the gases in cess-pools—fosses d'aisances—that the most important fact connected with them is the diminution of oxygen and not the excess

of sulphate of hydrogen, to which heretofore all the accidents caused by the foul air contained in them was attributed.

The practical point to be observed from these analyses is that no disinfectant can possibly render the air poisoned in such cess-pools fit for respiration. Admitting that it can absorb carbonic acid, the sulphate of hydrogen and ammonia, these would not restore the oxygen it had lost.

The only means of rendering the air in such cess-pools inoffensive and harmless is to supply an abundance of oxygen when the workmen are about to enter them.

In another article in the same number of the "Progrès Médical," M. Hanriot repeats that the asphyxia of cleaners of fosses d'aisance is not due to the presence of sulphydrogen in the cess-pools.

Chevreul, who advocated this opinion, did not certainly examine the gas he had blamed for the danger. The sulphate of hydrogen is indeed very poisonous, but Brouardel has demonstrated that it is much less dangerous than Chevreul imagined. In the fosses or pits the proportions of sulphuret of hydrogen are very small, 0.01 to 0.03. The oxygen was deficient in one case, being only 3.8 and in another, 0. The quantity of CO^2 is increased to 10. per cent., the methane 28., hydrogen, 9. The asphyxia is therefore caused by the absence of oxygen, increased by the great proportion of CO^2, and other toxic products. These gases are increased by the acidity, which causes a great proportion of the CO^2, and therefore the usual disinfectants are insufficient to remove the danger from the cess-pools; ventilation is the best, indeed, the only effectual remedy.

M. Laveran thinks it is necessary to use the vapor of ammonia.

M. Yoon recalled the accident in the fosses at Montmartre, due to the want of oxygen and the excess of CO^2, being 12 to 15 per cent.

M. Chanveau remarked that animals can, as proved by experience, remain in an atmosphere containing 6 per cent. of CO^2 without inconvenience, for an indefinitely long time.

Destruction of Toxines.—Under the title New Facts, the "Gazette Hebdomadaire" of February 23, 1902, publishes a statement of Madam Sieber on the destruction of toxines by the bioxide of calcium. The author of the statement has made statements of the greatest interest regarding this destruction by the bioxide of calcium, by oxygenated water and by animal and vegetable oxides.

"Archives des Societies biologiques de Saint Petersbourg," Vol. 2, 1901 : 0 gr. 50 de CaO^2 neutralizes 1,000 fatal doses of diphtheritic and tetanic toxine.

Oxygenated water in doses of O cc. 5 neutralizes 600 fatal doses of diphtheritic toxine.

These antitoxic effects are exerted *in vitrio* as well as on the animal, when they are injected at the same moment, the toxic substance at one point and the antitoxic substance in another part of the body.—*D'après la Revue gènèrale des Sciences.*

LATENT TUBERCULOSIS.—Again, under the title New Facts, the "Gazette Hebdomadaire" of March 2, 1902, publishes the following:

Numerous cases of latent and unsuspected tuberculosis have been revealed by the injection of tuberculine.

A doctor in the Austrian army selected from a regiment 400 men apparently quite free from tuberculosis; he submitted them to a test with tuberculine; he increased the dose consecutively from one to five milligrams. The reaction was positive in 245 cases, that is, in 61 per cent.; doubtful in 10 cases, 2.5 per cent., negative in 145, or 36.5 per cent.

These figures show the great frequency of latent tuberculosis, even in cases in which it was least suspected. Dr. K. Kranz, who has made these experiments, which are of real interest, proposes to submit these men to a prolonged and careful observation.

J. SABRAZES.

ARRHENAL A VEHICLE FOR ARSENIC.—An extremely interesting communication was presented to the Académie de Medecine ("Gazette Hebdomadaire," March 2, 1902) on a new derivative of the cacodylates, the methylarzynate of soda disodic or *arrhenal,* which permits the administration of arsenic under an organic and unoffensive form. This medicine has the great advantage that it can be administered by the mouth and in drops. In this form the arsenic has no injurious effect whatever on the blood globules. The therapeutic dose of the medicine is from 25 to 100 milligrams.

This new medicine of M. Gautier may be prescribed under the following formula:

Arrhenal methylic.....	3 gramme
Alcohol phenique to 1-10.....	11 drops
Aqua distil. q. s.....	100 cc.

From 20 to 30 drops of this solution may be given daily.

Arrhenal has given wonderful results in the treatment of

tuberculosis in its different stages. Our readers will peruse, with the greatest interest, the memoir *in extenso* of Professor A. Gautier in the "Bulletin Médical," which gives cases in detail and very convincing from many physicians in the hospitals of Paris and the provinces.

Arrhenal is not only a specific in paludism, it is a medicine that is very powerful in tuberculosis. It has, besides these uses, a great variety of applications; it is given successfully in the treatment of skin diseases, of syphilis, and even in the uncontrollable vomiting of pregnancy; in emphysema, in chronic bronchitis, in grip, in true asthma, in hemichorea, and in chorea.

This remedy is also effective in the treatment of adenopathy in leucemia, uremia in severe cases. In cases of cancer, some slight amelioration has been found in the general condition. Some patients have more comfortably and for a longer time resisted the effects of the disease.

Arrhenal may be given through the mouth and hypodermically to the extent of from 5 to 20 centigrams a day; 5 centigrams a day is sufficient in ordinary cases. This medicine, when absorbed, excites in the blood the formation of the large mononucleary globules that influence the purification of the blood, and the formation of the white toxin phaze globules, those that free the economy of injurious waste, the remains of nitrogenous and earthy substances, which they neutralize or oxydize.

Arrhenal, if it realizes all that has been promised for it, will be in the future one of the most powerful and the most reliable preparations of arsenic as a medicine.

Removal of Gun Powder Stains.—Dr. E. G. Corbett, of Hampton, Fla., reports ("The Medical World," Feb., 1902) the case of a boy of twelve, who had filled a vaselin bottle with powder and exploded it. "I arrived on the scene," he says, "about three hours after the accident, and found the cornea and sclerotic of both eyes and the face literally blown full of powder. I removed a dozen or more flakes of powder from each cornea with a foreign spud; also removed the powder from the sclerotic. Did the operation under a four per cent. solution of cocain. After the operation I used a fifteen per cent. solution of Hydrozone in the eyes. After removing the particles of glass from the face, I kept a cloth over it saturated with a fifty per cent. solution of Hydrozone. At the end of two weeks I used a saturated solution of boric acid in the eyes and painted the face daily with equal parts of

Hydrozone and glycerin. The eyes are well and powder stains have disappeared from the face."

FOR REFRESHING LEMONADE WITHOUT LEMONS.—Take one teaspoonful of Horsford's Acid Phosphate, two lumps of sugar, or one tablespoonful of lemon syrup, to a tumblerful of pure, cold water, and you have it.

RECENT SANITARY PATENTS.

629418.—Sewer-trap; Hermann L. Behrens, St. Louis, Mo.

692797.—Flush Tank and Valve; John F. Rodgers, Chartiers Township, Pa.

692611.—Flushing Apparatus; J. Burgum, Rio Janeiro.

692523.—Water Supply and Cooling Apparatus; E. G. Kammer, Chicago, Ill.

693316.—Process of Purifying Sewage; Leberlcht Walls, Charlottenberg, Germany.

693022.—Ventilator; E. Emma Hasfield, Chicago.

693193.—Ventilator; Henry W. Walknier, Philadelphia.

693638.—Device for Removing Noxious Impurities from the Air of Rooms.—Carl Breuer, Friedman, Germany.

693511.—Sewer Inlet; William H. Garrett, Springfield, O.

693948.—Automatic Smoke Preventer; Ralph W. Cavenaugh, St. Paul, Minn.

694676—Disinfecting Cabinet for Barbers; William E. Sewell, Detroit, Mich.

694627—Automatic Flushing Tank; Peter F. Glackin, Pittsburg, Pa.

695270.—Vaccine Shield; George M. Beringer, Camden, N. J.

THE BUILDING OF A HOUSE FROM A SANITARY POINT OF VIEW.

BY HARVEY B. BASHORE, M.D.

When a man comes to build a house in the city he pays more attention to the cost, the kind of neighbors, business, etc., than he does to the sanitary conditions, for over these he has little control. He buys a lot and builds thereon his house facing the street,

of course, whether it be east or west, north or south; over the surrounding buildings he has no control—they may overtop his and keep out the sun, they may keep him from having a fine view across the neighboring river, but for this there is no remedy; he must confine himself to his own narrow lot. He has the consolation, however, that there are some compensations; for example, the network of sewers and the numerous trenches of various kinds, keep soil-drainage good and save trouble that he might have elsewhere.

In a small town or in the country he can choose a site that conforms more to sanitary requirements; he may have a lot large enough so that the sun will shine into the house during the whole day. He may build on a hill or he may build in the valley. Probably a slight elevation, with a wooded hill or mountain in the background of the north and a body of water in the foreground, would be to most people an ideal place in general aspect. If there is no natural barrier on the north side a grove of evergreens, spruce or pine or fir will keep off cold winds better than anything else; then a grove of trees near a house makes a vast recreation ground which furnishes wholesome pleasure to man, woman or child.

When it comes to building the house, the foundation, like the foundation of everything else, is of prime importance; there are three things—ground-moisture, ground-water and ground-air, which must be considered before a stone is laid.

The ground-moisture is that near the surface containing both air and water and is directly proportional to the absorptive power of the soil. It is evident that by increasing the permeability of the soil we can diminish this dampness; to do this we fill trenches with broken stone or we lay drain tiles; the water percolating through the soil will collect in these drains and flow off rapidly and the soil will become dryer. This undue dampness of the soil is no doubt a factor in certain diseases. The prevalence of rheumatic complaints in rural districts is a well-known fact, strikingly different from its prevalence in a well-drained city. There seems to be some relation, too, between dampness and phthisis. According to the English sanitarians there has been a great lowering of phthisical mortality following sub-soil drainage in certain districts.

The destruction of malaria which has followed drainage we now know to be likely due to the destruction of the breeding places of the mosquito. Diphtheria seems to spread more rapidly where the soil is damp.

Ground-water, another soil factor to the builder, is that under-

ground sheet of water which completely fills all the interstices of the soil; its height is readily told by the height of the water in neighboring wells. This sheet of ground-water is in constant motion to the nearest water courses and its height depends mainly on the height of these water courses, and it cannot be lowered, of course, except by lowering the adjoining streams; but unless the ground-water is very near the surface it is not of much consequence. I know of a town where the ground-water is generally 25 to 50 feet below the surface, yet almost every house is damp and unhealthy because faulty construction has permitted ground-moisture and surface water to enter the foundations. The relationship between ground-water and typhoid fever likely does not exist in the absence of wells.

Ground-air, which fills the upper layers of the soil, differs much in composition from ordinary air, and for that reason is unhealthy and perhaps at times it may contain the spores of disease.

So with an understanding of these factors in the soil we try to construct a foundation which will keep out the dangers. First, the surrounding area should be thoroughly drained unless it is very dry. The foundation walls should be surrounded by tough clay or the outside should be coated with asphalt. The cellar floor may be clay, which is very impervious to air and moisture, or a layer of bricks covered with melted pitch and then covered with cement. A foundation constructed in this way insures the occupants against all trouble from the soil.

The direction to which the house should face will depend on circumstances, but a southerly exposure is very likely preferable; and the house should be so built that sunlight can enter every room some time during the day. Sunlight, I know, fades carpets and paper, but better that than faded humanity.

The material of which a house is built is generally an economic one; brick and stone are, of course, preferable to wood. Shade around the house is very important, but the great tendency in the country is to have the trees too close and too thick; in villages this fault is universal on account of the narrow pavements and streets. A tree should be no nearer the house than fifteen feet and should be trimmed high. Men always trim the top of a tree to make it thick; Nature always trims a tree from below. Nature's method makes a tree a thing of beauty; man's method never.

EDITOR'S TABLE.

SANITARIAN, MAY, 1902.

☞All correspondence and exchanges, and all publications for review, should be addressed to the editor, Dr. A. N. Bell, 337 Clinton St., Brooklyn, N. Y.

SELLERS OF IMPURE FOOD IN NEW YORK FINED.

At a recent session of the Court of Special Sessions, the City Board of Health arraigned a score of produce dealers for violating the Health Laws. The chief offenders were the sellers of polluted milk. Seventeen of them were fined in sums ranging from $15 to $30.

It was brought to the attention of the court that since the passage of the law prohibiting the use of boracic acid for the preservation of milk the use of formaldehyde was becoming almost universal and that it was difficult in the crowded districts to get other than "embalmed milk."

Clerk of the Court Fuller, who is a chemist, stated that a tablespoonful of the preparation to every forty gallons of milk preserves it for ten days from souring, but that it becomes very indigestible. Agents for the sale of the preparation take it into the country, where it is sold to farmers. It is also sold to the wholesale dealer, to the retailer, and to the small jobber, so that the amount used is enough to make it almost poisonous and as indigestible as leather fed to an infant.

There were many cases of persons charged with selling spoiled fish and decayed vegetables. All were heavily sentenced. Persons who expose meats and fruits on the streets where they become covered with dust and microbes were brought to account and sentenced. The representatives of the Health Board would not state what they would do in the cases of the fruit pushcart peddlers and the small grocerymen all over the city, but from the cases brought up it seems likely that a general crusade is planned before the warm season begins.

Hessel Broidy, seventy-two years old, of 138 Attorney Street, was brought up before the court, charged with illegally selling fruit. He said that he covered pieces of apples with syrup, ran a stick through them, and sold them to the children of the east side. The sweets were described as being filthy and exposed to the dust and dirt of the streets. Magistrate Hinsdale stated that

he could not think of a surer way of distributing microbes, but suspended sentence when the old man promised that he would give up the business of sweetening apples.

The cash in fines taken in by the Court of Special Sessions for the month amounted to $7,000.

VACCINE VIRUS AND ANTITOXIN.

A representation of manufacturers to protest against the manufacture and sale of vaccine virus and antitoxin by the Board of Health has been delegated to meet Mayor Low. The Board is charged with commercialism and with exercising an "unfair advantage" in competition with the regular manufacturers. It is claimed that the manufacture and sale of such products by municipal authorities is "unnecessary, undesirable, pernicious and impolitic." There is no opposition expressed to the free distribution of virus and antitoxin to the poor. On the other hand, it is contended by the Board of Health that only a limited amount of these products are manufactured, that such manufacture is not undertaken as a commercial enterprise, the proceeds from the sale of the surplus stock being used to help pay the staff of vaccinators. Further, only the absolutely perfect product is dispensed and so long as the Board of Health hold this high standard a higher degree of excellence will be required from the regular manufacturers. It is held that physicians practising in the congested tenement districts are now able to obtain antitoxin for little or nothing, and this is only made possible because municipal aid is extended.

FINED FOR SPITTING IN PUBLIC PLACES.

Fifty persons have been prosecuted by the New York Board of Health for spitting in public places. The general excuse given was colds caused by the changeable weather; 18 were imprisoned for several hours, while others were fined $5.00 each. All were warned that if caught again they would be given the full penalty of a $500 fine, a year's imprisonment, or both.

COFFEE CIGARETTES ARE THE LATEST INVENTION FOR SMOKERS. —They are reported to cure a person of the tobacco smoking habit. The cigarette is made of the leaf of the tree, not a compound of the ground bean. Coffee-leaf smoking is said to possess the property of imparting to tobacco smokers an intense dislike for the flavor of tobacco.

DR. LEDERLE, President of the Department of Health, has asked the Board of Estimate and Apportionment for $1,025,000 with which to provide new hospitals for the treatment of contagious diseases, and to rehabilitate the old ones, many of which, he says, are in such condition that they should be torn down.

Bronx, Queens, and Richmond Boroughs, the President states, are abundantly without such institutions. In proof of the need he cites that on Thursday two cases of smallpox were discovered in remote parts of Staten Island, and a department diagnostician had to travel forty miles and the department steamboat Franklin Edson sixty miles before the patients could be landed at North Brother Island.

Dr. Lederle has received the hearty support of the Medical Advisory Board of the department in the project.

PLANS TO KEEP CITY CLEAN.—At a recent meeting of the Women's Health Protective Association of New York, held in the Academy of Medicine, Commissioner of Street Cleaning Woodbury, in a half-hour talk, outlined the measures which he is inaugurating to thoroughly clean the city. In the course of two weeks he will deliver in New York 200,000 circulars, explaining at length the law prohibiting the casting of garbage or refuse of any sort into the street, and detailing the penalties for violations of the same, most of which provide for a fine of $10. "One of these circulars," he said, "will be placed in every house, and the man who delivers it will be required to obtain a receipt from the householder. Should the latter disregard the circular to the extent of a violation, the next call will be made by a policeman." Commissioner Woodbury then described the incinerating plant which will soon be in operation at the foot of Forty-seventh Street. He said that the city's condition will continue to be insanitary until there is in general operation a system for separating the ashes from the garbage, and then reducing the garbage to ashes instead of throwing it into the sea.

THE UNITED STATES HEALTH SERVICE.

By the agreement between the Marine Hospital Service and the representatives of the State Boards of Health, the following was the amendment referred to in our April number. For the seventh section of the said bill (as published in our February number) the following was substituted:

That when in the opinion of the surgeon-general of the United States health service the interests of the public health would be promoted by a conference with the State, Territorial, or District of Columbia Boards of Health or health authorities, or on the application of five State Boards of Health or quarantine officers, the surgeon-general of the United States health service is authorized to invite representatives of such State Boards of Health and quarantine officers to send delegates, not more than one from each State or Territory, to said conference, and when thus convened said delegates shall be entitled to reimbursement for their necessary expenses of travel and maintenance not exceeding five days at the place of conference in accordance with such regulations as may be made by the Secretary of the Treasury.

BREVET RANK FOR GALLANT CONDUCT.

A list of nominations of army officers to brevet rank for gallant conduct during the war with Spain and since, recently sent by President Roosevelt to the Senate and confirmed by that body, includes the names of a large number of surgeons of the regular army and volunteer forces. The following were advanced one grade by brevet, "for distinguished conduct in the presence of the enemy in attending wounded under fire, Santiago, Cuba, July 1, 1898":

Major Rudolph G. Ebert, Surgeon, U. S. A.; Major Henry S. Kilbourne, Surgeon, U. S. A.; Major Samuel Q. Robinson, Surgeon, U. S. A.; Captain W. B. Banister, Assistant Surgeon, U. S. A.; Captain Henry C. Fisher, Assistant Surgeon, U. S. A.; Lieutenant L. A. Fuller, Assistant Surgeon, U. S. A.; Lieutenant T. J. Kirkpatrick, Assistant Surgeon, U. S. A.; Captain James Stafford, Assistant Surgeon, Seventy-first New York Volunteers; Lieutenant James R. Church, Assistant Surgeon, First U. S. Volunteer Cavalry; Major W. D. McCaw, Brigade Surgeon, U. S. Volunteers (Captain, Assistant Surgeon, U. S. A.).

Other brevet advancements were as follows:

Captain Paul Shillock, Assistant Surgeon, U. S. A., "for distinguished gallantry in action near Tabuan, Negros, Philippine Islands."

Major Charles M. Drake, Surgeon, U. S. Volunteers, "for distinguished gallantry in action at San Fernando, Luzon."

Major Henry F. Hoyt, Surgeon, U. S. Volunteers, "for distinguished gallantry in action near Marilao, Luzon."

Major Paul F. Straub, Surgeon, Thirty-sixth U. S. Volunteers (Captain, Assistant Surgeon, U. S. A.), "for distinguished gallantry in action at Florida Blanca, Luzon."

Major George F. Shiels, Surgeon, U. S. Volunteers, "for distinguished gallantry in action at the Tuliehan River, Luzon, March 25, 1899; at the Grande River, Luzon, April 27, 1899; and at the Zapote River, June 13, 1899."

Captain George W. Mathews, Assistant Surgeon, Thirty-sixth U. S. Volunteers (Lieutenant, Assistant Surgeon, U. S. A.), "for distinguished gallantry in action near Porac, Luzon."

Lieutenant Isaac W. Brewer, Assistant Surgeon, Thirty-sixth U. S. Volunteers, "for distinguished gallantry in action near Florida Blanca, Luzon."

DEFINING THE STATUS OF CONTRACT DENTAL SURGEONS.

The Secretary of War has decided that the dental surgeons recently added to the army have no official relation to the surgeon of a post, nor have their enlisted assistants—except that the latter may occasionally be attached to the hospital corps detachment for rations and quarters. When, for any reason, it becomes necessary to recommend the excuse from duty of an officer or enlisted man on account of dental disease, the contract dental surgeon will report the case to the surgeon of the post, who will take it up on his register of sick and wounded, but in other cases no report of dental operations will be made except by the contract dental surgeon.

INTEMPERANCE AND DISEASE IN THE ARMY.

In view of the rapid increase of certain diseases among troops in the Philippines, and at other tropical stations, an order has been issued to commanding officers enjoining upon them the strictest scrutiny over the habits and morals of their subordinates, and requesting them by personal example to influence the soldiers to preserve their health, both by abstaining from drink and the liability of contracting preventable disease. The order says, in part:

"The only really efficient way in which to control the diseases due to immorality is to diminish the vice which is the cause of these diseases. Excessive indulgence in strong drink is absolutely certain to ruin any man, physically and morally; while disease due to licentiousness produces effects which are quite as destructive and even more loathsome. It is the duty of regimental,

and particularly of company officers, to try, by precept and example, to point out to the men under their control, and particularly to the younger men, the inevitable misery and disaster which follow intemperance, moral intemperance and vicious living. The officers should, of course, always remember that the effect of what they say must largely depend upon the lives they themselves lead."

OBITUARY.

DR. DELAVAN BLOODGOOD, Medical Director (retired), U. S. Navy, died at his home in Brooklyn, from heart disease, April 4, 1902.

Dr. Bloodgood was born in Springville, N. Y., on March 20, 1831. He was graduated from Madison University (now Colgate) of Hamilton, N. Y., in 1852, with the degree of A. B., and A. M. followed in course. He received his medical degree from Jefferson Medical College, Philadelphia, in 1854. He was appointed Assistant Surgeon, U. S. Navy, March 13, 1857. He was promoted to Passed Assistant Surgeon, 1861; to Surgeon, 1862; Medical Inspector, 1873, and Medical Director in 1884. He was retired by age limit—at 62—in 1893. His was an active, naval life, at home and abroad, thirteen years and one month sea service, and twenty-three years and three months shore and other duty.

During the Spanish-American War, though on the retired list, he was ordered for special duty to the Naval Hospital, Brooklyn, and continued there until the close of hostilities.

In 1856 Dr. Bloodgood married Miss Jennie Ruger, sister of Chief Justice Ruger of the Court of Appeals. She survives him, together with one daughter, Miss Lisa Delavan Bloodgood, and his grandchildren—of a deceased daughter—Delavan and Louise Downer.

Dr. Bloodgood was a rarely congenial and companionable man and his death is mourned by a host of friends.

He was a member of the Military Order of the Loyal Legion, of the Holland Society, of the Society of Colonial Wars, of the St. Nicholas Society of Nassau Island, and of the University, Yacht and St. Nicholas clubs of New York, and of the Oxford Club of Brooklyn. He was one of the charter members of the Hamilton Club.

AMERICAN CONGRESS OF TUBERCULOSIS, 1902.

Office of the Secretary and Treasurer,
39 Broadway,

NEW YORK, April 9th, 1902.

A. N. BELL, M.D., Honorary President.

My Dear Sir—I beg to hand you herewith the official PRELIMINARY ANNOUNCEMENT of the Congress, and remain,

Very faithfully yours, CLARK BELL.

PRELIMINARY ANNOUNCEMENT.

TO THE MEMBERS OF THE AMERICAN CONGRESS OF TUBERCULOSIS, AND FELLOWS OF THE MEDICO-LEGAL SOCIETY:

It is quite impossible to submit, at present, a complete list of the officers of the Congress of May 14, 15 and 16 proximo, in addition to the Board of Officers and Committees that were chosen at the session of May 15 and 16, 1901, which has been published. It is deemed wiser to wait until the complete list of officers from all the States, Provinces and Countries has been made and the programme prepared for the meeting.

Three vice-presidents were directed to be named in each of the States of the American Union and the Dominion of Canada, as well as in Mexico and in each of the Central and South American States.

In eleven of the American States these officers have not yet been selected and in a few of the other States only two have yet been selected. Delay in filling these positions has occurred in some of the Central and South American States which is due to the great distance some of these States are from us, but correspondence with all is progressing.

Honorary Vice-presidents have been named for the Dominion of Canada and all the Provinces of that Dominion, but the three Vice-presidents of the several Canadian Provinces are not yet completed, except the Province of Quebec.

Honorary Vice-presidents have been named in and accepted by a large number in the American States, and in Central and South America; and these places will doubtless all be filled before May 1st, as well as the Vice-presidents; none, however, are announced

even after names have been selected until the appointees accept the position.

It is also too early to announce the delegates appointed by the Executives of States, Countries, or Provinces in Canada, because the requests to make these appointments have but recently been sent out, and the same is true of Societies, Academies of Medicine or other organizations, as special invitations have not yet gone to these, only the general invitation contained in the announcement.

To show, however, the great interest taken in this work, especially in the distant states and countries, I announce the delegates that have already been named by a few of the Governors of the American States, each of whom had accepted the Honorary Vice-presidency of the body from their respective States.

Since our last announcement the following delegates have been appointed by the Governors of the States named:

ARIZONA.

By Hon. N. O. Murphy, Governor of the Territory of Arizona, and Honorary Vice-president of the American Congress of Tuberculosis, for Arizona:

Dr. D. J. Breannen, Flagstaff, Ariz.
Dr. R. W. Craig, Phœnix, Ariz.
Dr. Thomas B. Davis, Prescott, Ariz.
Dr. William Duffield, Phœnix, Ariz.
Dr. Hiram W. Fenner, Tucson, Ariz.
Dr. Ancil Martin, Phœnix, Ariz.
Dr. Mark A. Rodgers, Tucson, Ariz.
Dr. Henry H. Stone, Phœnix, Ariz.
Dr. M. M. Walker, Clifton, Ariz.
Dr. John R. Walls, Prescott, Ariz.
Dr. William V. Whitmore, Tucson, Ariz.

IDAHO.

By Frank W. Hunt, Governor of Idaho, and Honorary Vice-president of the American Congress of Tuberculosis, for Idaho:

Dr. D. P. Albee, Oakley, Idaho.
Dr. George Collister, Boise, Idaho.
Dr. D'Orr Poynter, Montpelier, Idaho.
Dr. J. J. Pulse, Denver, Idaho.

Dr. J. L. Conant, Jr., Genesee, Idaho.
Dr. J. K. Dubois, Boise, Idaho.
Dr. J. W. Givens, Blackfoot, Idaho.
Dr. William R. Hamilton, Silver City, Idaho.
Dr. T. R. Mason, Wardner, Idaho.
Dr. F. P. Matchette, Wardner, Idaho.
Dr. L. P. McCalla, Boise, Idaho.
Dr. W. Newell, Idaho City, Idaho.
Dr. R. L. Nourse, Hailey, Idaho.
Dr. J. J. Plumer, Hailey, Idaho.
Dr. H. Schmalhausen, Harrison, Idaho.
Dr. Wm. F. Smith, Mountain Home, Idaho.
Dr. W. D. Springer, Boise, Idaho.
Dr. O. B. Steely, Pocatello, Idaho.
Dr. C. S. Stone, Wallace, Idaho.
Dr. R. T. Story, Albion, Idaho.
Dr. G. M. Waterhouse, Weiser, Idaho.
Dr. W. C. Whitwell, Salmon City, Idaho.
Dr. J. M. Woodburn, Rexburg, Idaho.

MONTANA.

By Hon. Jos. K. Toole, Governor of Montana, and Honorary Vice-president of the American Congress of Tuberculosis, for Montana:

Dr. R. B. Alton, Livingston, Mont.
Dr. J. B. Atchison, Lewiston, Mont.
Dr. J. J. Buckley, Missoula, Mont.
Dr. D. L. Carmichael, Helena, Mont.
Dr. C. M. Chambliss, Missoula, Mont.
Dr. Ernest Crutcher, Great Falls, Mont.
Dr. J. H. Featherston, Missoula, Mont.
Dr. I. D. Freund, Butte, Mont.
Dr. H. O. Miller, Dillon, Mont.
Dr. W. P. Mills, Missoula, Mont.
Dr. S. W. Minshall, Missoula, Mont.
Dr. I. J. Murray, Butte, Mont.
Dr. George T. McCullough, Missoula, Mont.
Dr. F. W. McCrimmon, Butte, Mont.
Dr. J. P. McKay, Big Timber, Mont.
Dr. Charles A. Perrin, Helena, Mont.

Dr. R. W. Getty,
Philipsburg, Mont.
Dr. J. L. Johnston,
Butte, Mont.
Dr. S. G. Leard,
Livingston, Mont.
Dr. J. L. Leiser,
Helena, Mont.
Dr. Oliver Leiser,
Anaconda, Mont.
Dr. A. F. Longeway,
Great Falls, Mont.
Dr. James L. Jones,
Dillon, Mont.
Dr. M. A. Miller,
Dillon, Mont.
Dr. W. L. Renick,
Butte, Mont.
Dr. J. M. Sligh,
Anaconda, Mont.
Dr. J. F. Spelman,
Anaconda, Mont.
Dr. Fred. Treacy,
Lewiston, Mont.
Dr. J. A. Tremblay,
Big Timber, Mont.
Dr. Asa M. Willard,
Dillon, Mont.
Dr. E. M. Wilson,
Twin Bridges, Mont.

NEW MEXICO.

Hon. Miguel A. Otero, the Governor, is an Honorary Vice-president of the American Congress of Tuberculosis. He is by profession a physician, and he takes an unusual interest in the aims, objects and work of the Congress. In his report as Governor of the Territory, made September 14, 1901, for the fiscal year ending June 30, 1901, which is one of the most painstaking and carefully prepared reports that has been submitted in recent years to the Government, he contributed an article upon the Climatology of New Mexico, its general climatic conditions and its importance as a location for Sanitariums for the sufferers from pulmonary disorders, which is of the greatest possible value.

In his report he also gives some comparative climatic data between Santa Fé and the other principal cities of the United States, and it is in this report that the work of the General Hospital at Fort Bayard, in charge of Major D. M. Appel, is made, as well as the report of Surgeon F. M. Carrington, in charge of the Marine Hospital at Fort Stanton, for the year ending June 30, 1901, which has excited so much interest throughout the whole world.

Governor Otero has named twenty-three delegates and has given to each power of substitution. They are as follows:

Major D. M. Appel,
Surgeon U. S. A.,
Fort Bayard.
Dr. J. F. McConnell,
Las Cruces, N. M.

Dr. R. L. Bradley,
Roswell, N. M.
Dr. George C. Bryan,
Alamogordo, N. M.
Dr. F. M. Carrington,
Fort Stanton, N. M.
Dr. E. G. Condit,
Aztec, N. M.
Dr. P. G. Cornish,
Albuquerque, N. M.
Dr. J. M. Cunningham,
East Las Vegas, N. M.
Dr. D. A. Clark,
Silver City, N. M.
Dr. G. G. Duncan,
Socorro, N. M.
Dr. R. C. Dryden,
Capitan, N. M.
W. G. Hope,
Albuquerque, N. M.
Dr. O. C. McEwen,
Farmington, N. M.
Dr. M. R. McGrory,
San Marcial, N. M.
Dr. A. R. Smith,
Carlsbad, N. M.
Dr. S. D. Swope,
Deming, N. M.
Dr. E. B. Shaw,
East Las Vegas, N. M.
Dr. H. M. Smith,
East Las Vegas, N. M.
Dr. J. J. Shuler,
Raton, N. M.
Dr. J. H. Sloan,
Santa Fé, N. M.
Dr. W. R. Tipton,
East Las Vegas, N. M.
Dr. E. L. Woods,
Silver City, N. M.
Dr. J. H. Wroth,
Albuquerque, N. M.

TEXAS.

By Hon. Joseph E. Sayers, Governor of Texas, and Honorary Vice-president of the American Congress of Tuberculosis, for the State of Texas:

Dr. W. H. Allen,
Marlin, Tex.
Dr. J. C. Ellis,
Denison, Tex.
Dr. J. M. Inge,
Denton, Tex.
Dr. F. Paschal,
San Antonio, Tex.
Dr. J. P. Sessions,
Rockdale, Tex.
Dr. M. M. Smith,
Austin, Tex.
Dr. T. H. Stallcup,
Jefferson, Tex.
Dr. A. H. West,
Galveston, Tex.

VERMONT.

By Hon. Wm. W. Stickney, Governor of Vermont, and Honorary Vice-president of the American Congress of Tuberculosis, for Vermont:

Dr. Charles S. Caverly,
Rutland, Vt.
Dr. Truman R. Stiles,
St. Johnsbury, Vt.
Dr. H. Edwin Lewis,
Burlington, Vt.
Dr. Don D. Grout,
Waterbury, Vt.
Dr. William N. Platt,
Shoreham, Vt.
Dr. William N. Bryant,
Ludlow, Vt.
Dr. C. W. Peck,
Brandon, Vt.
Dr. J. W. Copeland,
Lyndonville, Vt.
Dr. L. W. Hubbard,
Lyndon, Vt.
Dr. Edwin M. Brown,
Sheldon, Vt.

WEST VIRGINIA.

Hon. A. B. White, the Governor of West Virginia, has named the following delegates from West Virginia:

Dr. Hugh A. Barbee,
Point Pleasant, W. Va.
Dr. T. L. Barber,
Charleston, W. Va.
Dr. H. M. Brown,
Union, W. Va.
Dr. John W. Brown,
Wheeling, W. Va.
Dr. H. J. Campbell,
Glenwood, W. Va.
Dr. O. O. Cooper,
Hinton, W. Va.
Dr. William A. Cracraft,
Elmgrove, W. Va.
Dr. Frank T. Dare,
Wellsburg, W. Va.
Dr. N. L. Edwards,
Bluefield, W. Va.
Dr. C. S. Ford,
Wheeling, W. Va.
Dr. W. W. Golden,
Elkins, W. Va.
Dr. H. F. Gamble,
Charleston, W. Va.
Dr. A. S. Grimm,
St. Mary's, W. Va.
Dr. George Lounsberry,
Charleston, W. Va.
Dr. Robert L. Morrison,
Clarksburg, W. Va.
Dr. C. L. Muhleman,
Parkersburg, W. Va.
Dr. J. M. McGoughlin,
Addison, W. Va.
Dr. R. M. J. McGuffin,
Sewell, W. Va.
Dr. Jessie C. Norris,
Fairmont, W. Va.
Dr. D. R. Coale Price,
Maybuery, W. Va.
Dr. Jos. L. Pyle,
Bearsville, W. Va.
Dr. Charles W. Riggs,
Cameron, W. Va.
Dr. W. Bolling Robertson,
Concho, W. Va.
Dr. I. R. Le Sage,
Huntington, W. Va.
Dr. W. H. Sands,
Fairmont, W. Va.
Dr. Herbert E. Sloan,
Clarksburg, W. Va.

Dr. H. D. Hatfield,
Thacker, W. Va.
Dr. I. N. Houston,
Moundsville, W. Va.
Dr. Louise Jarvis,
Quiet Dale, W. Va.
Dr. S. L. Jepson,
Wheeling, W. Va.
Dr. Elbin J. Johnson,
Middlebourne, W. Va.
Dr. J. P. Johnson,
Wellsburg, W. Va.
Dr. W. S. Keever,
Parkersburg, W. Va.
Dr. G. W. Knapp,
Richlands, W. Va.
Dr. William M. Late,
Bridgeport, W. Va.
Dr. S. B. Lawson,
Logan, W. Va.
Dr. John Ligon,
Clover Lick, W. Va.
Dr. Clifford Sperow,
Martinsburg, W. Va.
Dr. H. B. Stout,
Parkersburg, W. Va.
Dr. C. F. Ulrich,
Wheeling, W. Va.
Dr. Steptoe A. Washington,
Sewell, W. Va.
Dr. J. Y. Wharton,
Ceredo, W. Va.
Dr. G. R. White,
Williamson, W. Va.
Dr. Waitman T. Willey,
Morgantown, W. Va.
Dr. Zepha R. Wilson,
Pennsboro, W. Va.
Dr. John M. Yeager,
Marlinton, W. Va.
Dr. H. H. Young,
Charleston, W. Va.

NORTH CAROLINA.

Hon. Charles B. Aycock, the Governor of North Carolina, has accepted the position of Honorary Vice-president and has named the following delegates and says he may name others later:

Dr. W. L. Dunn,
Asheville, N. C.
Dr. Albert Anderson,
Wilson, N. C.
Dr. W. T. Pate,
Gibson, N. C.
Dr. S. W. Battle,
Asheville, N. C.
Dr. R. H. Lewis,
Raleigh, N. C.
Dr. J. L. Nicholson,
Richlands, N. C.
Dr. J. F. Miller,
Goldsboro, N. C.
Dr. James McKee,
Raleigh, N. C.
Dr. P. L. Murphy,
Morganton, N. C.

As the appointments of delegates have just commenced to reach the Secretary, those from the other States will be announced in the programme of the Congress at its opening, or through the

Lay, Legal and Medical Press from time to time, prior to the session, if deemed advisable.

It will, I think, prove of interest, to give copies of the letters received from some of the Governors of American States, as an indication of the real interest felt in our work in every part of the American Union. A few are submitted:

STATE OF UTAH, EXECUTIVE OFFICE,
SALT LAKE CITY, February 15, 1902.

MR. CLARK BELL, Secretary and Treasurer, American Congress of Tuberculosis, 39 Broadway, New York.

Dear Sir—Answering yours of the 8th instant, I accept with pleasure the appointment of Honorary Vice-president for Utah, of the Congress of Tuberculosis, and will appoint delegates to the session of 1902 within a few days. I shall also endeavor to forward you a short letter, expressing my sympathy for the cause in which you are engaged. Very respectfully,

HEBER M. WELLS, Governor.

EXECUTIVE OFFICE, DES MOINES, March 8, 1902.

Dear Sir—I beg to acknowledge the receipt of your esteemed favor of March 1. I shall be glad to become an Honorary Vice-president of your Society, and will, within a short time, appoint delegates from Iowa to the meeting of 1902. While I am not technically familiar with the subjects which you will consider, I have the deepest sympathy with every effort to ameliorate human suffering, and I sincerely hope that your profession which has contributed so much to the learning of the world, will in this field make another distinct advance. Yours very truly,

ALBERT B. CUMMING, Governor.

CLARK BELL, Secretary,
39 Broadway, New York.

STATE OF VERMONT, EXECUTIVE DEPARTMENT,
LUDLOW, January 30, 1902.

CLARK BELL, Esq., 39 Broadway, New York, N. Y.

Dear Sir—I beg to acknowledge the receipt of your esteemed favor indicating that the American Congress of Tuberculosis had designated me as one of the Honorary Vice-presidents of that body from my State, and asking if I would accept the position.

I should be glad to do anything I am able to further the object of the Congress and will accept the appointment with pleasure. As

to the other matters you write about I will communicate with you in reference to the same within a few days. I have the honor to be

Very truly yours,
WILLIAM W. STICKNEY, Governor.

STATE OF MICHIGAN, EXECUTIVE OFFICE,
LANSING, March 7, 1902.

MR. CLARK BELL, Secretary and Treasurer, New York City, N. Y.

Dear Sir—In reply to yours of the 1st instant, it affords me pleasure to accept the appointment as Honorary Vice-president for Michigan, to the American Congress of Tuberculosis. I sympathize strongly with the work this Congress is engaged in carrying on, and trust that in its battle against the ravages of this terrible disease it may win an unqualified victory.

Very respectfully, A. T. BLISS, Governor.

STATE OF NEW HAMPSHIRE, EXECUTIVE DEPARTMENT,
LANCASTER, January 25, 1902.

CLARK BELL, Esq., Secretary and Treasurer.

Dear Sir—Your favor of the 23d instant received. I think you have made a convert of me, or at least got me to the anxious seat. If it is thought that by the use of my name any one can be made better physically, mentally or morally—it can be used.

Sincerely yours, C. B. JORDAN, Governor.

Governor Beckham, of Kentucky, has expressed his great interest in the work of the body. His letter to the President of the Congress is as follows:

STATE OF KENTUCKY, EXECUTIVE DEPARTMENT,
FRANKFORT, March 25, 1902.

DR. HENRY D. HOLTON, President American Congress of Tuberculosis, 39 Broadway, New York.

Dear Sir—I received, some time ago, your letter asking me for an expression of opinion upon the objects and purposes of the American Congress of Tuberculosis. It will be impossible for me to attend the convention to which you invite me, but I wish to assure you and the association of my hearty sympathy and encouragement in their efforts to reduce the ravages of the dread disease. I believe that by organized effort much good can be accomplished in that direction, and you gentlemen who are undertaking to accomplish it are entitled to much praise and credit. I hope that

your meeting and all your efforts will be successful. Should you desire it I will appoint some delegates to the convention.

Very truly yours, J. C. W. BECKHAM, Governor.

The Governor of West Virginia seems to have taken a deep interest in the work. Dr. C. F. Ulrich, of Wheeling, is one of the Vice-presidents of the Congress. He has been working up the sentiment in that State.

West Virginia is certainly the banner State if we measure it by the number of delegates its Governor has appointed. He names forty-seven delegates. His letter is as follows:

EXECUTIVE DEPARTMENT,
CHARLESTON, W. VA., March 25, 1902.

CLARK BELL, Esq., Secretary, 39 Broadway, New York City, N.Y.

Dear Sir—Your circular letter, of March 1st, has just been called to my attention owing to repeated absences from the city.

Every intelligent effort for the suppression and cure of tuberculosis must command the sympathy and support of all thoughtful people. It affords me great pleasure, in this campaign of education which you have inaugurated, to name a number of our leading and representative physicians, in accordance with the request of your circular letter. I enclose you herewith a list of persons appointed as delegates from this State. I regret that it will be impossible for me to attend your Congress.

In your efforts to arouse opinion in favor of remedial and preventive legislation you have my sympathy and best wishes for success.

Very respectfully yours,
A. B. WHITE, Governor.

MEXICO.

The enclosed letter shows the interest felt in the Republic of Mexico, our nearest neighbor, and between whom and ourselves our commercial relations are now so enormously extending:

The Governor of the State of Vera Cruz, an Honorary member of the Congress, writes as follows:

CORRESPONDENCIA PARTICULAR DEL GOBERNADOR DEL ESTADO DE VERA CRUZ LLAVE:
XALAPA, MEXICO, February 28, 1902.

CLARK BELL, Esq., Secretary American Congress of Tuberculosis, 39 Broadway, New York, U. S. A.

Sir—I am in receipt of your esteemed favor of the 28th ultimo, informing me that I have been designated, by your Execu-

tive Officers, as one of the Honorary Vice-presidents of the American Congress of Tuberculosis from the State of Vera Cruz.

It is with much pleasure and with an appreciation of the honor conferred that I accept the appointment.

I am in hearty sympathy with and fully realize the great value of the work proposed by this organization, and am very pleased to become identified with it in the manner designated.

It would give me pleasure to act upon your suggestion to submit for the consideration of the Congress a statistical paper on Xalapa as a health resort, and I shall endeavor to have such a paper prepared for the meeting in May.

I should also be glad, in case I cannot be present at the meeting, if one or more of the leading physicians of this State could attend, as you suggest. The appointment of delegates to an international Congress, however, would be made by our Federal Government.

It is to be hoped that such co-operation will be given to this movement for the better understanding and treatment of tuberculosis as will effectively arrest the ravages of this dreadful enemy of mankind.

Permit me to hope that the meeting to be held next May, which I should be glad to be able to attend, will be productive of practical, beneficial results and will materially promote the important work undertaken by the Congress for the benefit of mankind. With great respect, I am Your obedient servant,

THEODORO A. DEHESA, Governor.

THE NORTHWEST TERRITORIES OF THE DOMINION OF CANADA.

The Provinces of Alberta, Assiniboia, Athabaska, Sasskatchewan, Mackenzie, Unigau and Franklin all have their seat of government at Regina, and the Hon. A. E. Forget is the Lieutenant-Governor of each and of all of them combined.

No man in Canada knows more of the sad effects of consumption in the Provinces and Territories over which he is placed, and no layman or public official in all Canada takes a deeper interest in the success of the measures this Congress is taking than does he. His letter, which explains why he cannot be present at the session, shows his profound interest in the subject. It is as follows:

GOVERNMENT HOUSE, REGINA, March 27, 1902.

Sir—I am in due receipt of your communication of the 1st inst., relating to the coming session of the American Congress of Tuberculosis to meet at New York on the 14th of May next. I thank

you for your invitation to deliver an address on so important an occasion, and regret very much that it will not be possible for me to be present.

I fully realize the terrible nature of the foe against which you are fighting so bravely, and I think you are wise in making your efforts "a campaign of education." It is impossible the public can know too much about the question, and I have noticed with much interest the valuable information recently so widely disseminated by your organization and other associations with a kindred object in view. Great facts conveyed in simple language cannot fail to be effective, and I am pleased that the knowledge already imparted, not only traces the origin and causes of the disease, but indicates the best means individuals should adopt to prevent the spread of its ravages. When people once recognize the insinuating nature of the bacillus, its prevalence and fecundity, it seems to me that self-preservation, if not a general love for humanity, will prompt the application of the precautions, so simple and yet so efficacious, that are clearly indicated in the literature that has been sent broadcast, as the best means of thwarting the disease in its devastating march in every country on the face of the globe. The subject is one that appeals to everybody, and which scientists, philanthropists and legislators especially, should certainly take under their guidance.

For these reasons, the objects you have in view command my hearty sympathy, and I look forward with great hope to much practical good as a result of the deliberations at your Congress.

In regard to your request that I should send a delegate or delegates to the Congress, I may say that I have forwarded your communication to Premier Haultain, the head of my Government, and as he is an official of an organization with precisely similar objects in view as has The American Congress of Tuberculosis, I am sure a sympathetic consideration will be given to your proposals.

Yours truly,

A. E. FORGET, Lieutenant-Governor N. W. T.

CLARK BELL, Esq., Secretary-Treasurer, American Congress of Tuberculosis, New York.

DEPARTMENT OF STATE, WASHINGTON, April 4, 1902.

CLARK BELL, Esq., Secretary American Congress of Tuberculosis, 39 Broadway, New York City.

Sir—I have to acknowledge the receipt of your letters of the 25th and 26th ultimo, in regard to the session of the American

Congress of Tuberculosis, which is to be held at the Majestic Hotel in New York City in May next.

In compliance with the request which you make, the Ambassador to Mexico and the Ministers to the Central and South American States have been instructed to express to those Governments the pleasure with which that of the United States would learn that they found it convenient to be represented in the Congress.

I am, sir, your obedient servant,

DAVID J. HILL, Assistant Secretary.

I also take pleasure in informing you that the Earl of Minto, Governor-general of the Dominion of Canada, has accepted the position of Honorary Vice-president, and has written that that Government will be represented by delegates.

I am also advised by the Hon. Oliver Mowat, G.C., M.G., Lieutenant-governor of the Province of Ontario, an Honorary Vice-president of the Congress, that steps have been taken to send representatives of the Provincial Government of that Province, and Lieutenant-Governor Hon. A. E. Forget, of the Northwestern Provinces of the Dominion, has sent a very strong letter of sympathy for the success of the Congress, of which he is an Honorary Vice-president.

SYMPOSIUMS.

The Committees who will have charge of the Discussion of the four Symposiums cannot be well constituted at present, but will be announced later.

Members or delegates who desire to take part in either of the Symposiums will please forward their names and indicate under which number they wish to be classified, as soon as possible.

The Symposiums will be held, one at a session, to be announced on programme, and are as follows:

1. Preventive Legislation, embracing the Social, Municipal, and State Aspects of Tuberculosis. (What aid should be expected from the State in the cure and prevention of Tuberculosis, and how shall this be secured.)

2. Tuberculosis in its Pathological and Bacteriological Aspects.

3. The Medical and Surgical Aspects of Tuberculosis. (Embracing Sanatoria and Climatic Conditions, Light and Electricity.)

4. The Veterinary Aspects of Tuberculosis.

REDUCTION OF FARE TO DELEGATES.

Last year we had more than one hundred delegates from distant States. We only had thirty-five who had carefully complied with the provisions of the regulations of the railways which entitled them to the return ticket at the reduced rate of one-third. As a result, this neglect of delegates affected not only themselves but their associates.

The contract was based on one hundred tickets. Certificates from the agent who sells the ticket must in all cases be taken, as it is on this certificate that the return ticket is issued.

Delegates who are coming should advise the Secretary, so that we may know who will attend. They should get the certificate from the station agent, and buy the ticket for only one way. Those living near should purchase it, so as to increase the number beyond the requisite one hundred.

MUSEUM.

Dr. H. Edwin Lewis, M.D., of Burlington, Vt., is the Chairman of the Committee on the Museum.

The other members of the Committee are Dr. Louis Le Roy, of Nashville, and the Secretary of the Congress.

The room at the disposal of the Committee is 40 x 45, and is on the floor above the parlors where the Congress meets. It is admirably adapted for a display of electrical, surgical and X-Ray instruments. Medical remedies and space will be let at reasonable prices for a display of all who wish to make exhibits.

Communications as to space can be made to the Chairman of the Committee or the Secretary of the Congress. Especial attention will be given to an exhibition of photographs, plans, specimens, drawings or exhibits from sanitariums throughout the whole American hemisphere.

ENROLLMENT.

Those desiring to enroll should at once remit the enrolling fee to Clark Bell, Esq., Secretary and Treasurer.

Titles of papers, outside of the four symposiums, should be sent as early as possible to the officers.

All papers offered will be submitted to a committee of censors, who will pass upon their acceptability and they should be in the Secretary's hands before the session.

Prof. Dr. Moritz Benedikt has sent an extended open letter to

the Congress. It is written in German and is being translated by Hon. Moritz Ellinger, the Corresponding Secretary of the Medico-Legal Society.

Prof. Koch has been invited to contribute a paper to the Congress and to discuss the fourth symposium. The leading scientists in the United States and Canada, Mexico and the Central and South American States wil be invited to participate in the discussion of the four symposiums.

The Congress is open to all persons interested in the work of preventing the spread of Tuberculosis by all lawful means.

A preliminary statement of titles of papers will accompany this statement. CLARK BELL, Secretary.

HENRY D. HOLTON, President.

HOW CLEVELAND WAS RID OF SMALLPOX,

as described by Dr. Martin Friedrich, health officer of that city, in the "Cleveland Medical Journal" for March, is a practical lesson of importance to all health officers. After reviewing the uncertainties of vaccination consequent upon the uncertainty of the quality of vaccine lymph obtainable; the means taken by the vaccinated to destroy its effects, even when of good quality; the conditions under which smallpox was maintained, and the facilities by which it was propagated—hiding in filthy surroundings, fomites, dogs and cats—he describes in detail his procedure, and sums it up thus:

"Whenever we found a case of smallpox we asked the patient, besides the usual questions about name, age, whether vaccinated and how many in the family, the following:

1. Who has visited you during the last two or three weeks? The difference in time depends upon the state of development of the eruption.
2. Whom have you visited during the last three weeks?
3. Have you been at any public meeting during that time, where and who was present to your knowledge?
4. Where do you work?
5. Where do the children go to school?
6. Where does the family attend divine worship?

"This information obtained, the trotting commenced. All the given addresses had to be visited. Besides we asked the foreman, preacher and teacher for all sick or absentees from shop, church or school during the last month, and they were seen. It made an almost endless chain, and the work connected with it was immense.

"Looking back over our smallpox history we find that in 1898 we had 48 cases, the next year 475, the following 993, and from January 1 to August 23, 1901, 1,230. On this last date the last case developed in Cleveland. Eight cases have been imported since. I was called to take charge of the health office on July 21. We had seventeen cases on hand and seven cases more developed during my administration.

"Almost six months have elapsed since the scourge has been exterminated from among our midst. When we consider all the means employed and measures taken during our struggle with the hydra-headed monster, when we sum up and try to reach a conclusion, in my opinion thorough investigation, strict quarantine and sanitary measures come in for a great share in our victory, but the death-blow was dealt by formaldehyde."

SANITARY MEASURES TO BE ADOPTED AFTER FLOODS.

George A. Soper, Ph. D. ("American Journal Medical Sciences" for March) states that there is need of a strong sanitary organization with a responsible head, to avoid epidemic, by removing the conditions which favor the spread of infectious diseases and to watch for cases of such sicknesses in their beginning. There should be a set of sanitary regulations issued for the guidance of the people. The scene of the wreck may be divided into sections. The people should be taught to look after their own health. Whenever a case of infectious disease is discovered, the case should be isolated and the premises disinfected. The water supply and food for the sufferers and helpers should be systematically inspected. In damaged houses slime, mould, and silt should be removed. All household stuffs should be sun-dried. Cellars should be pumped out, ventilated, and whitewashed. The most useful disinfectants will be quicklime, chloride of lime, and carbolic acid. All decomposing or decomposable organic matters and condemned articles should be burned. Human remains should be buried deep—at least six feet below the surface. An appearance of order and neatness should be observed.

FOR THE PREVENTION OF YELLOW FEVER, LEPROSY AND TUBERCULOSIS.

The international sanitary congress, in session in the city of Havana, February 15 to February 20, 1902, approved the resolutions adopted by the second Pan-American congress held in the City of Mexico, and passed further resolutions:

2. The international sanitary congress resolves that the mosquito, *Stegomyia fasciata,* is the only means, so far demonstrated, as the transmitter of yellow fever.

In accord with the above resolutions, prophylactic measures should be directed to the destruction of said mosquito as far as possible, and the best means should be adopted to prevent the access of these mosquitos to persons ill of yellow fever.

3. (*a*) The international sanitary congress advocates the formation of antileprosy leagues, under the patronage of the government therein represented, with the object that the people be educated in every possible way of the progress that the disease is making and the methods of preventing its increase.

(*b*) The entrance of lepers from foreign parts should be avoided, returning them to the country whence they come. The costs of such return should be borne by the transporting companies.

(*c*) Confirmed cases should be isolated and suspicious cases held under observation as far as possible.

(*d*) Everything should be done to convince the public mind of the contagiousness of leprosy, and to recommend the most efficient means of preventing infection.

4. To recommend that all countries where malaria exists initiate a campaign of publicity relative to the discoveries recently made as to the transmission of the disease. That in clear and simple style, and with drawings showing the genera of mosquito capable of conveying the disease, pamphlets be profusely spread among seamen arriving at malarial ports. And to diffuse the same information among school children, looking to the possible extermination of the disease.

5. To recommend that the American Republics establish leagues against tuberculosis similar to those existing in some of these republics and in the island of Cuba, with the object that, with a united effort, the propagation of the disease would be diminished.

6. Recommends the general convenience of classifying contagious diseases, from the point of view of maritime sanitation, keeping in mind the period of incubation of each.

7. To recommend to the different governments the inspection of cattle at the port of departure, as also the vessel in which they are to be transported, and the importance of vaccination when circumstances require it. This vaccination may consist of the use of "maleina" as a diagnostic means in case of horses or mules, or

the serum of de Schweinitz, of Washington, against equine diseases. The congress believes it convenient that the different governments include these precepts in their respective code of laws as a preventive against the introduction of epizootics.

DISINFECTION FOR MOSQUITOS.

Dr. M. J. Rosenau, director of the Hygienic Laboratory of the United States Marine Hospital Service, after a series of careful experiments with formaldehyde and with sulphur dioxide, concludes that the latter is unexcelled in the disinfection for mosquitoes. He has found that formaldehyde gas is a very weak insecticide, but that it may be rendered effective when a large volume is liberated in a short time. On the other hand, very dilute atmospheres of sulphur dioxide gas kill mosquitos quickly. Unlike formaldehyde gas, it has remarkable powers of penetrating all kinds of fabrics, even killing mosquitos that are hidden under four layers of toweling in one hour's time. As a result of his investigations Dr. Rosenau strongly recommends the use of sulphur dioxide gas for disinfection against yellow fever, malaria, filariasis and all other diseases carried by insects.—"American Medicine."

WHITE ILLITERACY IN THE SOUTH.—The census reports have revealed that the number of illiterates in the South is very large. The "Atlanta Constitution," commenting on this, says: "There is no more humiliating fact that an intelligent Southern man has to face than this: 'That among the white people of the South we have as many illiterate men over twenty-one years of age as we had fifty-two years ago, when the census of 1850 was taken.'"

YOUNG DOCTOR'S NEED OF HASTE.

"Yes," said the old doctor, "you should try to have your own carriage by all means. Because when you want to get to a patient quickly——"

"Oh!" interrupted the young M.D., "I don't think any patient who sent for me would be likely to die before I reached him."

"No, but he might recover before you got there."—"Philadelphia Press."

MORTALITY AND MORBIDITY REPORTS AND REVIEWS.

NEW YORK.—Bulletin of State Department of Health for February, 1902: Population, 7,467,050; deaths, 10,670; death rate, 18.6; deaths under five years, 2,890; at seventy years and over, 1,903; from zymotic diseases per 1,000 from all causes, 102; cerebro-spinal meningitis, 47; typhoid fever, 93; malarial diseases, 14; smallpox, 51; scarlet fever, 62; measles, 66; erysipelas, 34; whooping cough, 72; croup and diphtheria, 264; diarrhœal diseases, 180; acute respiratory diseases, 2,241; consumption, 1,100; puerperal diseases, 97; diseases of the digestive organs (not diarrhœal), 558; of the urinary system, 823; circulatory system, 1,189; nervous system, 1,161; cancer, 375; accidents and violence, 457; old age, 412; unclassified, 1,174.

City of New York, 3,632,501; deaths, 6,065; death rate, 17; deaths under five years, 2,081; from zymotic diseases per 1,000 from all causes, 129; cerebro-spinal fever, 31; typhoid fever, 22; malarial diseases, 9; smallpox, 48; scarlet fever, 129; measles, 140; erysipelas, 29; whooping cough, 50; croup and diphtheria, 197; acute respiratory diseases, 1,507; consumption, 666; cancer, 177.

Borough of Manhattan, 1,895,491; deaths, 3,300; death rate, 22.5; deaths under five, 183; zymotic diseases per 1,000 from all causes, 122; typhoid fever, 10; smallpox, 48; scarlet fever, 57; measles, 69; whooping cough, 34; croup and diphtheria, 115; acute respiratory diseases, 807; consumption, 327; cancer, 95.

Borough of the Bronx, 244,141; deaths, 478; death rate, 25.5; deaths under five, 158; from zymotic diseases per 1,000 from all causes, 235; smallpox, 33 (smallpox hospital in this borough); scarlet fever, 25; measles, 34; croup and diphtheria, 4; acute respiratory diseases, 88; consumption, 103; cancer, 5.

Borough of Brooklyn, 1,249,650; deaths, 1,967; death rate, 21.5; deaths under five, 656; deaths from zymotic diseases per 1,000 from all causes, 123; typhoid fever, 12; smallpox, 8; croup and diphtheria, 69; acute respiratory diseases, 519; consumption, 200; cancer, 67.

Borough of Queens, 172,472; deaths, 217; death rate, 16.4; deaths under five, 62; from zymotic diseases per 1,000 from all causes, 74; croup and diphtheria, 6; acute respiratory diseases, 70; consumption, 21; cancer, 7.

Borough of Richmond, 70,747; deaths, 103; death rate, 19.0; deaths under five, 22; from zymotic diseases per 1,000 from all causes, 74; acute respiratory diseases, 23; consumption, 15; cancer, 3.

Albany, 94,151; deaths, 148; death rate, 20.3; deaths under five, 19; from zymotic diseases per 1,000 from all causes, 53; acute respiratory diseases, 25; consumption, 16; cancer, 8.

Syracuse, 108,374; deaths, 106; death rate, 12.7; under five years, 17; from zymotic diseases per 1,000 from all causes, 38; acute respiratory diseases, 12; consumption, 13; cancer, 10.

Buffalo, 352,387; deaths, 379; death rate, 13.6; deaths under five, 101; from zymotic diseases per 1,000 from all causes, 110; from acute respiratory diseases, 58; consumption, 36; cancer, 19.

Rochester, 162,608; deaths, 173; death rate, 13.5; deaths under five, 25; from zymotic diseases per 1,000 from all causes, 30; from acute respiratory diseases, 23; consumption, 18; cancer, 15.

Smallpox continues in numerous places in the Adirondack region. An inspector from this department is on constant service there, the lumber camps forming a complex element in its management, and suppressive measures are being energetically carried out. Except the metropolis there are few other affected localities in the State. In New York city there were 48 deaths, 2 at Binghamton, and 1 in Clarkstown, Rockland county.

Grippe has been reported throughout the month from all parts of the State, and is estimated to have caused 1,500 deaths, the same as in January; the average for the past ten years for the month has been 1,200.

Acute respiratory diseases caused 2,240 deaths, 100 in excess of the average. There were 1,300 deaths from pneumonia, or 60 per cent. of the acute respiratory. Bright's disease caused 236 deaths.

CALIFORNIA.—San Francisco, 360,000. Report for February: Deaths, 626; death rate, 20.85; deaths under five, 112; deaths from specific febrile diseases, 44—from diphtheria, 24; consumption, 80; other tubercular diseases, 13; pneumonia, 43; other respiratory diseases, 56; cancer, 32; bubonic plague, 1.

Removal of the Board of Health.

As a consequence of the case of plague, on March 25, the Mayor of the city removed the Board of Health, for "proclaiming and

publishing under your official sanction and without proper foundation or justification in fact, that bubonic plague exists in San Francisco, and that it has existed therein since March 6, 1900."

And he proceeds to state that "for the three months past (January 8 to March 25) I have carefully examined and investigated all accessible reports and records, and have personally inquired into numerous specific cases reported and declared by you, and under your authority, to have been cases of bubonic plague, and I am unalterably convinced that, notwithstanding your declarations and publications, bubonic plague has not existed and does not exist in San Francisco . . .

"My investigations have been thorough and searching. I find that your announced conclusions are based almost entirely upon bacteriological examinations, which, under the circumstances, and in the light of events, are not conclusive or wholly reliable. Without desiring to cast any personal reflections, I find that where the work of your bacteriologist has been supervised, the same results have not been obtained as when he has acted alone. . . .

"Out of thirteen 'suspected' cases reported before April 8, 1901, and investigated under your authority, six or seven were pronounced and published by you as cases of true bubonic plague. Out of 103 such cases examined between April 8, 1901, and August 27, 1901, under joint investigation of your board and of the State Board of Health, not one authentic case of plague was discovered."

Opposed to this wiseacre, *Public Health Reports* show, on thorough scientific investigation by specially competent experts in knowledge of bubonic plague, that previous to April 8, 1901, thirty-four cases were found in the city: three whites and twenty-three Chinese; from April 8 to April 27, 1901, five; and from August 27 to March 25, 1902, nine genuine cases were discovered, making a total of fifty-three cases, notwithstanding the assertions of Governor Gage, the State Board of Health, and the Mayor of San Francisco to the contrary.

The Mayor's order of removal was stayed by an injunction, by latest reports received. But it will probably be effected.

Los Angeles, 120,000; report for March: Total deaths, 234; under five years, 29; annual death rate, 19.5; deaths from specific infectious diseases, 67; diseases of the respiratory system, 43—phthisis, 5; tuberculosis of the lungs, 48; of the meninges, 1; general, 3. This summary is obscure and the more by this note:

"There were 57 deaths from tuberculosis, divided as follows:

Natives of Los Angeles, 1; natives of the Pacific Coast outside of Los Angeles, 2; from other parts, 54; of the 57 deaths from tuberculosis, 11 had lived here less than three months, 6 between three and six months, 7 between six and twelve months, 13 between one and five years, 9 between five and ten years, 10 over ten years, 1 life, unknown, 0."

CONNECTICUT.—State Board Bulletin for March: Deaths, 1,239, 115 more than in February, and 202 less than in March of last year, and 160 less than the average number of deaths in March for the five years preceding.

The death rate was 16.6 for the large towns, for the small towns 15.7, and for the whole State 16.4.

The deaths reported from infectious diseases were 233, being 18.8 per cent. of the total mortality.

Smallpox is still occurring in several towns, but is epidemic only in Waterbury. As an illustration of the possible control of the disease, it is reported that, except in Waterbury, it has been limited to one case in five other towns and to two cases in the other two towns in which it has appeared. Its greatest spread in Waterbury is due to the large number of unvaccinated persons, the large foreign population, and the greater facilities for concealing the presence of the disease until many have been exposed to it.

DISTRICT OF COLUMBIA, 278,880. Report for the week ending April 5: Deaths, 123, as against 125 in the previous week, and 103 in the corresponding period of last year. Of those who died, 62 were white, and 61 colored, the death rate for the whites being 15.9 per 1,000, and 35.3 for the colored. The rate for all deaths was 21.8, as compared with 22.2 last week and 19.21 last year. The mortality from consumption increased from 16 to 23 and that from affections of the heart from 8 to 13, while deaths from pneumonia declined from 22 to 19. There were three fatal cases of typhoid fever. Three deaths by violence, of which 2 were accidental; 1 being by burns by fire, and 1 inhalation of illuminating gas, the third being a case of suicide. There were 41 cases of typhoid fever under medical supervision at the close of the last report. During the week, 7 new cases occurred, and 9 being discharged, left 39 cases under treatment. Of scarlet fever there were 20 cases in quarantine at the close of the last report. Of diphtheria there were 18 cases in quarantine. There were three new cases of smallpox added to the two cases already in hospital.

ILLINOIS.—Chicago, 1,758,025. Statement of mortality for week ended March 22, 1902, compared with the preceding week; and with corresponding week of 1901; estimated midyear 1902 population, 1,820,000:

	Mch. 22, 1902	Mch. 15, 1902	Mch. 23, 1901
Total deaths, all causes	537	554	465
Death rate, per annum, per 1,000	15.38	15.86	13.78
By ages: Under 1 year	124	136	97
Between 1 and 5 years	52	57	49
Over 60 years	109	101	92
Principal causes of death:			
Bright's disease	25	23	17
Bronchitis	34	28	20
Consumption	59	59	44
Cancer	18	22	8
Heart disease	52	39	33
Pneumonia	88	116	75
Scarlet fever	13	11	4
Violence (other than suicide, 5)	13	22	27
Influenza	8	6	10

Receives a Gold Medal.

Health Commissioner Reynolds has received from the directors of the Buffalo Exposition a certificate awarding to the Department of Health of Chicago, the gold medal on the exhibit of means used in sanitation and the handling of contagious diseases. Dr. Reynolds had on view maps, charts, samples of the literature circulated by the department, specimens of the postal cards used, and other articles used by the department in its work against disease, and the superior jury was unanimous in giving the palm to the Chicago department. The department won a similar prize at the Paris Exposition. All the large cities were in the competition.

INDIANA.—Statistical reports of the State Board of Health for March: Deaths, 3,045; annual rate being 14.2. In the corresponding month last year the number of deaths was 3,272, rate 15.3. Compared with the preceding month, there were 171 more deaths. Of this increase, 88, or almost 50 per cent., was of children under 15 years of age, and 20 per cent. was of people over 65 years. The diseases which caused the increase in number of deaths in March over February were consumption, measles and puerperal fever. It

was a singular coincidence that diphtheria and cerebro-spinal meningitis both caused respectively 26 and 21 deaths in February and in March. Deaths under 1, 455; from 1 to 5, 191; deaths from tuberculosis, 457; typhoid fever, 39; diphtheria, 26; scarlet fever, 18; measles, 22; whooping cough, 16; pneumonia, 470; cerebro-spinal meningitis, 21; influenza, 59; puerperal fever, 21; cancer, 82; violence, 127; smallpox, 2; of which there was an aggregate of 785 cases reported in forty-six localities.

IOWA.—The State Board of Health Bulletin for February reports infectious diseases for the previous month: Diphtheria in twenty-three localities, measles in five, scarlet fever in fifty, smallpox in one hundred and fifty-one localities!

And "The Old Oaken Bucket—Modernized." We are gratified at the recent discovery by the "Engineering News," though surprised at its omission of credit for it. It was contributed to and published in THE SANITARIAN, Vol. VIII., p. 38, twenty-two years ago. But that was before the Iowa Health Bulletin was born—and the same may be said of some other health bulletins passing it round. Keep it going, but give proper credit for it. Moreover, make further reference to THE SANITARIAN'S early volumes, which you seem not to have had time to read. You may find other matter there only just now "quite up to date" because you have not before discovered it.

Des Moines, Ia., April 5.—The House has passed the Senate bill in recognition of the Osteopathic School of Physicians, authorizing the State Board of Medical Examiners to issue certificates to graduates of osteopathic colleges and to others who pass examination, and authorizing the choice by the governor of an osteopathic physician to become a member of the State Board of Health and State Board of Medical Examiners.

KANSAS.—The Secretary of the State Board of Health reports for March: *Smallpox* in thirty-one localities, with an aggregate of 360 cases, and one death.

MASSACHUSETTS.—Boston, 573,579. Statement of deaths for January, 1902: 933; under five years, 232; annual death rate, 19.52. Deaths from typhoid fever, 7; smallpox, 31; diphtheria, 28; tubercle of the lungs, 123; bronchitis, 30; broncho-pneumonia, 66; pneumonia, 45; cancer, 49; cerebral congestion and hemorrhage, 47; organic diseases of the heart, 80; nephritis, 41;

Contagious and infectious diseases *reported* during the month: Chickenpox, 79; cerebro-spinal meningitis, 8; diphtheria and croup, 235; pulmonary and laryngeal tuberculosis, 71; measles, 492; scarlatina, 119; smallpox, 177; typhoid fever, 55.

MICHIGAN.—The Secretary of the State Board of Health reports for March, 1902, compared with the average of March in the ten years, 1892-1901, smallpox, scarlet fever and typhoid fever were more than usually prevalent; and consumption, erysipelas, remittent fever, whooping cough, diphtheria, meningitis and membranous croup were less than usually prevalent. Of the most dangerous communicable diseases meningitis was reported present at nine places; whooping cough at 28 places; diphtheria at 62 places; typhoid fever at 81 places; measles at 126 places; scarlet fever at 187 places; consumption at 225 places, and smallpox at 227 places.

Since the first of January, 1902, outbreaks of *smallpox* in 252 localities in Michigan have been caused to cease, and in 148, or 59 per cent. of those outbreaks, *the disease was restricted to the first household where the first case occurred.* Nowithstanding this record of effective work by the health services, State and local, the disease has continued to spread, because in the other outbreaks where the disease was not restricted to the first household, it was first called "Cuban itch", "cedar itch", syphilis, chicken-pox, impetigo contagiosa, or acne, and not reported to the health officers, so that restrictive measures could be taken; in a very few instances the fault has been with the health officer himself. Because of such lack of proper reports or proper action, smallpox continued to spread. It is now (April 12) present in 52 counties, at 133 places in Michigan, 24 places less than in the preceding week.

There were 2,959 deaths reported to the Department of State for the month of March, corresponding to a death rate of 14.1 per 1,000 population, a slight increase over the rate for February, which was 14.0 per 1,000 population. There were 495 deaths of infants under 1 year of age; 205 deaths of children aged 1 to 4 years, inclusive, and 912 deaths of elderly persons over 65 years. Important causes of death were as follows: Pulmonary tuberculosis, 200; other forms of tuberculosis, 21; typhoid fever, 41; diphtheria and croup, 33; scarlet fever, 37; measles, 34; whooping cough, 29; pneumonia, 385; influenza, 70; cancer, 119; accidents and violence, 147. There were also 3 deaths from smallpox, 1 in Escanaba City, 1 in Clio village, Genesee county, and 1 in

Chesterfield township, Macomb county; 1 death from chickenpox in Houghton county, and 2 deaths from mumps. The most marked features of the month were the increased numbers of deaths from pulmonary tuberculosis, and the common diseases of children: scarlet fever, measles, and whooping cough.

MINNESOTA.—Minneapolis, 240,000. Health Department's report for March, 1902: Deaths, 214; under five years, 64; annual death rate, 9.67; deaths from typhoid fever, 8; tuberculosis of the lungs, 24; bronchitis, 6; broncho-pneumonia, 6; pneumonia, 30; cancer, 15.

St. Paul, 170,000. Health Department's report for February, 1902: Deaths, 147; under five years, 37; annual death rate, 10.38; deaths from diphtheria and croup, 7; tuberculosis of the lungs, 22; bronchitis, 3; broncho-pneumonia, 7; pneumonia, 26; cancer, 3.

MISSOURI.—St. Louis, 598,000. Report for February: Total deaths, 947—186 under 5 years; death rate, 17.90. Deaths from typhoid fever, 16; scarlet fever, 9; whooping cough, 7; smallpox, 1; croup and diphtheria, 21; consumption, 105; pneumonia, 161; bronchitis, 36; other respiratory diseases, 44; cancer, 25.

Twenty-fourth annual report, for the year ending March 31, 1901: Total number of deaths, 9,847—175 less than the previous year; 2,622 under five years; death rates, based on census of 575,200—1,109 colored—white 16.04; colored 29.97: 23.00. Deaths from zymotic diseases: Smallpox, 5; measles, 41; scarlatina, 57; diphtheria, 353; croup, 65; whooping cough, 16; typhoid fever, 161; cerebro-spinal fever, 12; malarial fever, 103; puerperal fever, 13; diarrhœal (under 5 years), 403; diarrhœal (over 5 years), 62; erysipelas, 41; pyemia and septicema, 71; syphilis, 16; alcoholism, 28; other zymotic diseases, 64: 1,469; pulmonary tuberculosis, 1,016; pneumonia, 1,011; bronchitis, 347; other diseases of the respiratory organs, 263; diseases of the circulatory system, 672; of the nervous system, 514; apoplexy, 184; cerosis of the liver and hepatitis, 161; enteritis, gastro-enteritis, etc., 323; Bright's disease and nephritis, 42; other diseases of the urinary organs, 292; senility, 519; inanition, 171; deaths by accident, 363; suicide, 131; homicide, 109; premature birth, 88. Antitoxin was furnished free to physicians upon application. Thousands of typhoid fever slides and spectrum samples were examined by the Bacteriological division, as well as culture tubes for the diagnosis of diphtheria.

NEW HAMPSHIRE.—Sanitary Bulletin, April 1: Smallpox exists at six localities, with an aggregate of 21 cases. The law requires, under penalty, that local boards of health shall report promptly to the State Board of Health the presence of smallpox, diphtheria, membranous croup, scarlet fever, typhoid fever, measles, or any malignant communicable disease, and shall thereafter make a weekly report as long as the disease continues, stating number of cases, number of infected houses, fatality, and such other facts as may be required by the State Board of Health.

NEW JERSEY.—Hudson County (Jersey City and environs), 409,810. Report for February. Total deaths, 828—246 under 5 years; death rate, 19.6; deaths from smallpox, 14; croup and diphtheria, 24; all zymotic diseases, 78; consumption, 70; pneumonia, 119; bronchitis, 23; cancer, (?).

Newark, 250,000. For the week ending March 29: Deaths, 115; from contagious and infectious diseases, 32—1 from smallpox; from consumption, 17; pneumonia, 9; broncho-pneumonia, 3; bronchitis, 6. Annual death rate, 23.9.

NORTH CAROLINA.—The State Board of Health Bulletin reports for February: Total deaths in 29 towns, with an aggregate population of 154,420 (62,800 colored): deaths, 200—106 colored; death rates, white, 12.3; colored, 20.2; 15.5; deaths under five years, 43; from pneumonia, 41; consumption, 27—16 colored.

OHIO.—Cleveland, 400,000. Report for March, 1902: Deaths, 532—179 under 5 years; death rate, 15.90; deaths from scarlet fever, 3; diphtheria and croup, 12; typhoid fever, 12; tuberculosis of the lungs, 37; bronchitis, 20; pneumonia, 79; broncho-pneumonia, 18; cancer, 17.

PENNSYLVANIA.—Philadelphia, 1,293,697. Report for week ending April 12: Deaths, 494—123 under 5 years; from typhoid fever, 14; smallpox, 4; croup and diphtheria, 14; consumption, 59; pneumonia, 69; cancer, 13.

Pittsburg, 346,000. Report for week ending April 12: Deaths, 155—46 under 5 years; death rate, 23.20; from diphtheria and croup, 1; measles, 9; typhoid fever, 9; consumption, 13; pneumonia, 31; bronchitis, 31; cancer, 8.

UTAH.—Salt Lake City, 75,000. Report for March: Deaths, 75—26 under 5 years; annual death rate, 12.00. Deaths from pneu-

monia, 12; tubercle of lungs, 4; scarlet fever, 4; diphtheria, 4; cancer, 5.

WASHINGTON.—Seattle, 110,000. Report for February, 1902: Deaths, 85—10 under 5 years; death rate, 9.26; deaths from consumption, 7; pneumonia, 18; typhoid fever, 5; scarlet fever, 3; smallpox, 1; cancer, 3.

WISCONSIN.—Milwaukee, 300,000. Report for February, 1902: Deaths, 274—90 under 5 years; death rate, 11.87; deaths from consumption, 17; other tuberculosis diseases, 6; pneumonia, 24; broncho-pneumonia, 4; bronchitis, 25; diphtheria and croup, 4; typhoid fever, 3; measles, 2; cancer, 10.

HAVANA.—271,363—72,492 colored. W. C. Gorgas, Major and Surgeon U. S. Army, Chief Sanitary Officer, reports for February that a much smaller number of deaths occurred in Havana than in any previous February of which we have record. The table for the last 13 years shows that the maximum number of deaths occurred in 1898—1,602; the minimum, this year—391. Our death rate, 17.06, compares favorably with that of most cities in the United States and Europe. During the last year of the Spanish occupation, 1898, there were 21,252 deaths in Havana, giving a rate of 91.03; the next year, 1899, the first year of the American occupation, we had 8,153 deaths, giving a rate of 33.67; in 1900, we had 6,102 deaths, a rate of 24.40; in 1901, 5,720 deaths occurred, a rate of 22.11. This month we had 391 deaths, which record, if maintained for the year, will give 4,692 deaths, and a rate of 17.06. The number of deaths from contagious diseases has been exceedingly small; from typhoid fever, only 3; scarlet fever, 1; diphtheria, 1; smallpox, none. Not a case of the last named disease has occurred since July, 1900. The prospect for escaping re-infection from yellow fever grows more and more hopeful as the months pass, and each month strengthens the claim that is made that this disease has been eradicated from Havana. At the end of February, five months had elapsed since the last case occurred, and when we consider that, for a hundred years, Havana has never been free from yellow fever for a single month, this claim seems very strong. We feel confident now that Havana will have no more yellow fever until it is introduced from some infected point outside of Cuba. Vera Cruz has had more or less yellow fever all winter, and the Sanitary Department is watching this port, with anxiety, as a possible point from which we might

become infected. Our commerce with Vera Cruz is very intimate, and we have a number of passengers every week from that city. Believing that the mosquito is the only way by which yellow fever is propagated, the Sanitary Department put no restrictions upon goods, baggage, or fabrics of any kind coming from Vera Cruz. The only thing we fear is that some person sick, or about to become sick, with yellow fever, may enter the city, thus poisoning our Havana mosquitos. To avoid this, the Military Governor has issued an order requiring all non-immunes to report daily for examination. This examination is kept up during the period of incubation, in the case of each individual.

CHOLERA IN THE PHILIPPINES.

Manila, April 17.—The total number of cases of cholera reported in Manila up to noon to-day is 306, and the total number of deaths from that disease in this city is 235. In the provinces totals of 621 cases and 422 deaths have been reported.

The work of exterminating the disease has been seriously interfered with by the scattering of the floating population of the part of the city in which the disease first appeared into other parts of Manila, and into the outlying districts. An unexpected obstacle has also appeared in the attitude of the friars, who are telling the Filipinos that the disease is not cholera, and that the Americans are taking the present sanitary precautions purely for the purpose of annoying the natives. This has provoked ill-feeling on the part of the Filipinos and excited an opposition to the execution of the sanitary regulations issued by the Board of Health. The latter has made a vigorous protest to the Archbishop of Manila, with regard to the attitude of the friars. One of the greatest difficulties in the way of carrying out sanitary reforms in the Philippines is found in the ignorance and superstition of the natives, their hostility to everything American, and their opposition to any change in the conditions of life to which they have been accustomed.

City of Mexico, 368,777. Latest report received, for December: Total deaths, 1,711—59 under 5 years; annual death rate, 55.5. Prevailing causes of death: diarrhœal diseases, 287; tubercular affections, 153; typhoid fever, 151; pneumonia, 150; bronchitis, 116; broncho-pneumonia, 66; cirrhosis of the liver, 68; heart diseases, 69; from other causes, 1 to 47; and besides these there were 129 premature and still-births.

LONGEVITY OF THE POPES.

Pope Leo XIII. entered on the twenty-fifth year of his pontificate February 20, while on the 2d of March his Holiness completed his ninety-second year.

It is noteworthy that only one Pope of the 262 occupants of the chair of St. Peter has enjoyed a longer reign than Leo XIII., namely, his immediate predecessor, Pius IX., who reigned thirty-two years—from 1846 to 1878.

During Pope Leo's reign about 140 Cardinals have passed away.

His Holiness was born at Carpineto, on March 2, 1810, and was sixty-eight years of age when he was elected Pope.

Though his Holiness will have to reign seven more years to break his immediate predecessor's record in length of office, nevertheless Leo XIII. is the only nonagenarian Pope, though some of his predecessors lived to be octogenarians.

True, in the early days of the church, St. Teleosphorus, reputed seventh in succession from St. Peter, is said to have suffered martyrdom at the age of ninety, while John XXII., we are told, died in 1334 in his ninetieth year. But the chronology of those early times is so uncertain that those instances cannot be considered as absolutely authentic as regards the years attained by the Popes in question.

Gregory XII., who died in 1417, had reached the age of ninety-one, but it must be borne in mind that he had been deposed from his office some years before by the Council of Pisa, in the hope of healing the great schism.

Pius IX., Leo's immediate predecessor, lived to be eighty-five.

Gregory XVI. was eighty when he died. Pius VIII. was seventy-nine, and Leo XII., in gratitude for whose early kindness the present Pope assumed his title, died at the comparatively early age of sixty-eight—the very age at which his present Holiness was elected to St. Peter's chair.

The instances of octogenarian Popes are worth recalling. Pius VI. and Pius VII., both of whom suffered much at the hands of Napoleon, each died at eighty-one years of age.

Clement X. died in 1676, at the age of eighty-six. Innocent XII. died in 1700 at the advanced age of eighty-five. Paul IV. died in 1559, and Gregory XIII. died in 1585, each at the age of eighty-three, while Adrian II. and Paul III. died at eighty-one, and Innocent X. and Alexander VIII. at eighty.

In this connection one recalls that there is no instance of an

archbishop of Canterbury living to the age of ninety, while very few octogenarians are to be found on the list.

Archbishops Howley and Sumner, in Victoria's reign, each died at eighty-two.

One archbishop of York, however, nearly equaled the present Pope's achievement in the matter of longevity, namely, Archbishop Vernon of Harcourt, who died in 1847, three weeks after completing his ninetieth year.

Among remarkably long-lived divines one may instance the cases of Michael Boyle, the archbishop of Armagh, who died in his ninety-third year in 1702; Bishop Wilson, who died at the patriarchal age of eighty-nine, in the reign of George II.; Bishop Philpots, who died comparatively recently, at ninety-one; Bishop Turnford of Chichester, who died at ninety-three, and John Wesley, who died at eighty-seven.

That the Pope is not a superstitious man may be gathered from the fact that he did not fear to become the thirteenth Pope of his name, despite the fact that at the time of his election many of the faithful begged him to take some other name.

Indeed, so far did things go that it was once semi-officially announced, in 1878, when Cardinal Pecci was chosen Pope, that he would style himself Gregory XVII. His Holiness defied augury, however, and took the name of Leo.

During the last century, of the seven Popes that reigned, four were Pius by title, two Leo, and one Gregory.

Despite his advanced years, the Pope has no appearance of weakness when he speaks.

The kindly, smiling eyes brighten up, all the vital energies of the weak frame being concentrated in the strong, animating voice and the piercing look.

One writer has aptly described the aged Pontiff as being like a lamp, the flame of which continues to shine without any perceptible reservoir to feed it or mechanism to hold it up.

He speaks French fluently, though with a slight Italian accent.

There has been no nonagenarian sovereign within living recollection.—"London Express."

LONGEVITY OF ENGLISHMEN.—An industrious and observing reader of obituary notices found in London papers has presented to "The London Times" curious confirmatory evidence of the longevity of Englishmen as indicated in the recent British census. The correspondent examined the obituary column of that paper

for March 12, and reached the following interesting results: Number of deaths recorded, 49; ages not given, 4; infants under one year, 2; of the remaining 43 the combined ages amount to 3,250 years, or an average life of 75.58 years. The most striking fact, however, is that of these 43 persons 32 had passed "three score and ten"; thus: 1 of ninety, 16 of eighty and upward, 15 of seventy and upward—9 had passed sixty, 1, fifty, and 1, forty; total, 43.

"We have," the writer continues, "made splendid advances in medical and sanitary science. Their benefits are now common to all classes. If only we could secure for 'the working classes' better housing and persuade them to be more provident and more temperate their life averages would equal, if not surpass, the above. Unfortunately, it would seem that while they do most in proportion to increase the population at one end, those who live longest are to be found among the classes whose lot is cast in better homes, greater comfort, and fewer temptations to excess."

SLIM DIET.

An Eastern hygienic exchange publishes the experience of a correspondent who claims to have lived on food costing less than five cents per day, for over thirty days. He also claims to have been benefited by this sparse diet. Following is his menu for the first and second weeks of the term:

"March 11th, 12th, 13th and 14th. Breakfast: One shredded biscuit; no lunch or dinner.

"15th and 16th. Fasted. Ate nothing until 6 o'clock, when I had two small leaves of lettuce and two small pieces of toast.

"17th. For breakfast: Popcorn, unbuttered and unsalted. One handful at breakfast for fourteen days. Six o'clock dinner, hard-boiled egg, two pieces of toast.

"18th. Dinner: Two pieces of toast and three teaspoonfuls of stewed tomatoes.

"19th. Dinner: Small saucer of Ralston breakfast food, baked, two small leaves of lettuce.

"20th. Dinner: Small saucer canned spring peas, two slices of toast.

"21st. Dinner: Three granose biscuits.

"22d. Dinner: Vermicelli soup, 'vegetable turkey,' two pieces of toast.

"23d. Dinner: Two tomato sandwiches, made of small pieces of toast."

BOOK REVIEWS.

SEWAGE, AND THE BACTERIAL PURIFICATION OF SEWAGE. By SAMUEL RIDEAL, D. Sc. (London), Fellow of University College, London; Fellow of the Institute of Chemistry, of the Chemical Society, and of the Sanitary Institute of Great Britain; vice-president of the Society of Public Analysts; author of "Water and its Purification," "Disinfection and Disinfectants." Second edition. 8vo, 316 pages, with numerous illustrations. Cloth, $3.50. New York: John Wiley & Sons, 43 East Nineteenth Street, 1900.

Recent advances in practical knowledge of the subject of this treatise render it of special importance to all sanitary engineers. The author tells us that, by condensation of statements and principles, with regard to the first stages of purification in previous edition, he has been enabled to add much further knowledge, both in theory and practice, of the remarkable development of bacterial treatment of sewage up to the present time. It is a thoroughly comprehensive, though concise, work on sewage, its character and recognized dangers; the primary methods of its disposal and the improvements thereupon from the earliest times of record. It proceeds with a lucid account of the results of chemical analysis, methods of collection, processes and standards of purification; bacteria accruing in sewage and the changes in it wrought by them; by the possibility of the survival of pathogenic organisms and the advantages of filtration; irrigation and sewage farms; the general aspects of land treatment.—Subsidence and chemical precipitation; sterilization; bacterial precipitation; its history and development, with lucidly illustrated description of the bacterial process in detail. Altogether, a particularly lucid and practical treatise on the most advanced and the most healthful methods of sewage disposal.

PROGRESSIVE MEDICINE, Vol. 1, 1902. A Quarterly Digest of Advances, Discoveries and Improvements in the Medical and Surgical Sciences. Edited by HOBART AMORY HARE, M. D., Professor of Therapeutics and Materia Medica in the Jefferson Medical College of Philadelphia. Octavo, handsomely bound in cloth, 452 pages, 5 illustrations. Per volume, $2.50, by express prepaid to any address. Per annum, in four cloth-bound volumes, $10.00. Lea Brothers and Co., Philadelphia and New York. "The con-

tents of each volume are chosen with the view of presenting what will be of the greatest practical value to physicians, no matter what may be their line of practice or the nature of their work." And this accounts for its excellence. In this volume, the surgery of the head, neck and chest is considered by C. H. Frazier. Comprehending the recent progress in the surgery of the Gasserian ganglion, and of the heart, which no physician can well afford to overlook. The section on infectious diseases by F. A. Packard deals with typhoid fever, tuberculosis, and the various eruptive diseases, the constant progress in the study of which is revolutionizing all our previous ideas regarding their diagnosis and treatment. Floyd M. Crandall writes of the diseases of children, and lays particular stress upon recent advances in the science of infant feeding, with which all physicians should be familiar The section on pathology by Ludvig Hektoen is a summary of the work being done in a science which underlies every department of medicine and yet with which it is impossible for the clinician to familiarize himself unless studied through some such medium as the present. Laryngology and Rhinology are written upon by St. Clair Thomson; otology, by R. L. Randolph, which concludes the volume. The very complete index renders the book easy to consult, and these volumes may be regarded as a progressive textbook of medicine, containing as they do contributions which cover every field of medicine and surgery, and written by men who know exactly what is practically useful as a standard, up-to-date table book.

THE INTERNATIONAL MEDICAL ANNUAL: A YEAR-BOOK OF TREATMENT AND PRACTITIONER'S INDEX. By thirty-six contributors. 1902: twentieth year. 12mo., pp. 700. Illustrated. Price, $3.00. New York: E. B. Treat & Co., 241-243 West Twenty-third Street.

The excellence of this annual is so well recognized by physicians as a table book, summarizing the progress made annually in every department of medicine, by experts chosen for their special competency, as to render an extended review unnecessary. It will suffice to state that it is the same sort of a book as that which began twenty years ago, with barely 300 pages, commensurate with the degree of progress at that time, but with matter considerably more dilute than that which is concentrated in the volume before us, which is more than three times larger. Yet there is not a particle of padding. But quite the contrary. Every one of

the contributors has shown himself to be a condenser—necessarily so, considering the respective fields of view. It comprehends a review of therapeutics, with a dictionary of additions and properties; a dictionary of medicine and surgery; and a dozen more elaborate pages on the foremost subjects of the year. But "Sanitary Science" is summed up in ten pages under the head of "Miscellaneous," with which the volume concludes. It emphasizes the British Congress on Tuberculosis, as the event of the year, long to be remembered. Excepting this, it consists of a scrappy abstract of incidents in the work of the local Government Board, with nothing new.

FAILURES OF VEGETARIANISM. By EUSTACE H. MILES, M. A., formerly scholar of King's College, Cambridge; honors coach at Cambridge University; amateur champion of the world at tennis; member of the Paris Exhibition; national commission on physical education; author of "Muscle, Brain and Diet," "Better Food for Boys," "The Training of the Body," "Lessons in Lawn Tennis," "How to Prepare Essays, etc.," "How to Learn Philology," "A History of Rome up to 500 A. D.," etc., etc.; co-editor (with Mr. E. F. Benson) of Messrs. Hurst and Blackett's Library of Games. 12mo, pp. 202. Price, $1.50, net. London: Swan, Sonnenschein & Co.; New York: E. P. Dutton & Co.

The title of this book is misleading, for it advocates "vegetarianism" and its success, rather than failure, when followed in accordance with the author's precepts. "Vegetarians," he says, "say that 'vegetarianism' is a success, or (to put it more concretely) that they, the 'vegetarians,' are successes. The outside public says that the cause is a failure, or that its representatives are failures. There is truth on both sides. The public is right if it says that 'vegetarianism' hitherto has been comparatively a failure. On the other hand, the 'vegetarians' are right if they say that the Simpler Foods *ought to be* (reviewer's italics), comparatively, a success. . . . " The experience of hundreds is to have gone into a restaurant, to have ordered a plate of vegetables, to have eaten these, to have felt inflated, to have felt hungry soon afterward, and eventually to claim that they have tried "vegetarianism." Such people are sure to tell their friends what has happened! This "fallacy," etc., has suggested to the author the need and substitution of a better name, for which he offers a prize. "Vegetarianism," according to the author's contention, is not a diet of vegetables, but a *fleshless* diet. . . . "Any fleshless

diet that suits the individual, the principles of such a diet being represented by the letters P. U. R. E.: Proteid containing and in general nourishing; unstimulating; reverencing higher life; economical."

The "Simpler Foods" for which the author contends, besides all sorts of vegetables, are plasmon and other kinds of cheese, milk, cream, butter, eggs, fruits, nuts—prepared and compounded in many ways—some of the preparations almost as rich in fat as bacon, but more difficult of digestion, and the more because of the greater liability to excess—in short, a mixed diet of all kinds of food except flesh; which, if properly sorted and prepared as the author suggests, may be made to comprehend in due proportion all the elements necessary for healthy nutrition.

MANUAL OF CHILDBED NURSING, WITH NOTES ON INFANT FEEDING. By CHARLES JEWETT, A. M., M. D., Sc. D., Professor of Obstetrics and Diseases of Women, in the Long Island College Hospital. Fifth edition. Revised and enlarged. 12mo, pp. 84. Price, 80 cents. New York: E. B. Treat & Co., 241-243 West Twenty-third Street.

A book admirably adapted to its purpose; concisely comprehending practical knowledge absolutely necessary for efficient nurses; for prospective mothers, too, if they would, as they should, know how to maintain health during pregnancy, know what is required of them during the puerperal period; what the needs of the baby, and how to supply them. Such knowledge as this is essential to good motherhood, as well as to good nurses, and for it we commend this book.

PROCEEDINGS OF THE CONNECTICUT MEDICAL SOCIETY'S ONE HUNDRED AND NINTH ANNUAL CONVENTION—1901. 8vo, pp. 350. Published by the Society. N. E. Worden, M. D., secretary, Bridgeport, Conn. Twenty odd reports, addresses and special papers on medical and surgical subjects of interest to all practitioners. The address of the president, JOHN H. GRANNIS, M. D., on "The Nineteenth Century in Medicine, with a Glance into the Twentieth," is a noteworthy summary of the pioneers of the period, of whom, proportionately, the summary is strikingly favorable to America.

Of preventive medicine the most, indeed the only, noteworthy paper is the report of the committee on "Infant Feeding," which gives the results of a comprehensive study of prepared foods and

milks sterilized and otherwise, with reference to scurvy and rachitis. The worst results were from feeding condensed milk. Appended is a list of members.

REPORT OF F. MONTIZAMBERT, M. D., Edin., F. R. C. S., D. C. L., Director-General of Public Health of Canada, for the year ending October 31, 1901. A pamphlet of 35 pages, reviewing the aspect of the graver epidemic diseases which have threatened Canada during the year, and the measures instituted for their prevention. It takes account of the *plague* in San Francisco, with which our readers are familiar; also of its prevalence abroad; of preventive measures, the use of curative serums and the viability of the plague bacillus. Next follows a review of the extensive prevalence of *smallpox* in the United States and Canada. *Yellow fever* is *reviewed* by abstract from the reports of the U. S. Army Commission in Havana. *Tuberculosis* and the proceedings of the congresses thereon, during the year, are reported upon in considerable detail. The port *quarantine stations* in the Dominion are all reported to be in excellent condition, well prepared to prevent the introduction of epidemic diseases by commerce.

THE COW PEA is the title of a recent bulletin issued by the Experiment Farm of the North Carolina State Horticultural Society at Southern Pines. It discusses the value and uses of this important crop, the cow pea. Every reader can get a copy free by writing to the Superintendent of Experiment Farm, Southern Pines, N. C.

CONTEMPORARY LITERATURE.

THE IMPROVEMENT OF RURAL LIFE.

The rural school question is one of the liveliest topics to-day among farmers as well as educators. Opportunities for agricultural education have had a marvelous development within a decade. Discussion about rural church federation, the rural institutional church, rural social settlements, and even experiments in these lines are becoming noticeably frequent. The Young Men's Christian Association has, its officers think, found the way to reach the country young man.

This marked awakening naturally leads enthusiasts within each institution to think that their special institution is the one all-

sufficient force for preserving or improving rural life. Ministers are saying occasionally that the church must be the centre of all the religious, social, intellectual, and esthetic life of the rural community. Once in a while an educator insists that the rural school ought to be the agency that binds together the neighborhood with respect to things social and intellectual and progressive. And now and then a member of the Grange seems to convey the idea that, given a strong Grange in every country community, the whole circle of rural needs will be subserved.

Now all these earnest men are partly right. And it is most fortunate that each institution has such ardent advocates within its ranks. It is further true that in many localities some one of these institutions, when well developed, will be the leaven of the neighborhood. But if we regard the farm problem as a whole, we must concede the necessity for a well-balanced growth of all these institutions—the church, the school, and the farmers' organization—in order that the religious, the educational, and the technical, economic, and political needs of the farmers may be fostered.

If we once acquire this broad view of the rural social status, the most natural question in the world is: Can we not secure both the spirit and the form of co-operation among these institutions, so that each may understand its true province and appreciate the function of the others?

It is perfectly obvious that the first and most important step bringing about a federation of rural social forces is to educate all concerned to the desirability of such a federation—to sow the seeds of the idea.—From "Can Rural Social Forces be Federated—A First Step," by Kenyon L. Butterfield, in the "American Monthly Review of Reviews" for April.

THE FIRST STEP IN VILLAGE IMPROVEMENT.

From "The Beautifying of Village and Town," by Sylvester Baxter, in the April "Century."

First in order in activities of this kind comes cleanliness. Clean streets and public places, clean private premises—with these secured, the first great transformation in the community takes place. When nuisance-breeding rubbish-heaps are cleared away, and vacant lots covered with all sorts of litter are cleaned up, everybody notes the improvement and is interested in seeing it maintained. Orderliness, of course, goes hand in hand with cleanliness. The latter cannot be secured without good order. And with good order there is an aspect of neatness that commands

popular respect. It pleases the public eye. Nearly everybody will desist from throwing rubbish into a well-kept place, and from scattering torn-up paper, or other litter in a clean street. Public sentiment is easily cultivated in favor of public cleanliness and order. A notable instance of its growth is to be found in the agitation against spitting in public places, since it was determined that the practice was a danger to public health. The posting of notices with regulations against it, and the frequent discussion of the subject in the press, have made a strong impression upon public sentiment, and in consequence the offense is not practised to anything like the same extent in communities where there has been such agitation.

EDUCATION IN THE PHILIPPINES.

The geography formerly used in the Filipino schools devoted one page out of two hundred to the United States and described that country as "one of millionaires, advertisements and eccentricities." Just now one of the eccentricities consists in giving the Filipino children real education. The Superintendent of Public Education in the Philippines, Mr. Fred W. Atkinson, writes in "The Outlook":

The majority of the school children come from ignorant homes, where there are none of the accessories and means of culture. A small but important class of Filipinos, those who possess wealth and culture, while not opposing popular education, favor plans for higher education. On the other hand, the masses, for whom elementary education is intended, are ever in danger of misprizing its benefits. Fine words are heard from local presidents, but with many their deeds prove that their words serve only to conceal their thoughts.

In spite of these and other difficulties, all the superintendents and the great majority of the American teachers are enthusiastic and optimistic as to the ultimate outcome. A progressive spirit is being aroused in a considerable number of Filipino teachers, who are given, wherever there is an American teacher, daily instruction in English and in methods of teaching; and vacation normal courses are also being conducted. Modern textbooks and other school supplies, including furniture, are being distributed in large quantities. The American teachers are doing something to improve the appearance and hygienic conditions of schools and grounds, and by this means, and by inviting parents to the schools

on days of public exercises, are arousing local pride and interest. While there are exceptions, yet local co-operation is forthcoming.

THE WRONG OF INTOLERANCE.

The intolerant state of mind is injurious both to the State and to the individual. It goes with conceit and deadly pride. The strange thing is that men are apt to plume themselves upon their intolerance. It is evident that a man's conduct and a nation's conduct should be the result of thought and judgment; but intolerance stops thought and destroys judgment.—"The Century" (Editorial).

WHAT KNOW WE?

What know we of the gnawing grief
That dims perchance our neighbor's way,
The fretting worry, secret pain
That may be his from day to day?
Then let no idle word of ours
Sting to his heart with more dismay.

What know we of temptations deep
That hover round him like the night,
What bitter struggles may be his,
What evil influences blight?
Then be not hasty to condemn
If he have strayed from paths of right.

We know so little of the hearts
That everywhere around us beat,
So little of the inner lives
Of those whom day by day we greet,
Oh, it behooves us one and all
Gently to deal with those we meet!

Gently to deal and gently judge,
With that divinest charity
That thinks no evil but would seek
The good in every soul to see,
Measuring not by what it is,
But by that which it strives to be.

—L. M. Montgomery in "The Churchman."

BABEL AND BIBLE is the striking title that the famous Assyriologist, Professor Friedrich Delitzsch, gave to the lecture that he was twice invited to deliver before the Emperor of Germany. The story of the excavations of Babylonia and Assyria is second to none in its entrancing interest and tremendous import for religious and secular history, and its fascination is in the present case increased by its being told by the foremost interpreter in this field. Professor Delitzsch's lecture, with numerous illustrations from the best and latest sources, is appearing in the current numbers of "The Open Court."

It is little known that Christianity narrowly escaped being defeated in the great struggle for existence fought on the battle-grounds of dying Rome between the great religions of the Orient. Its most dangerous foe was Mithraism, the religion of the old Aryan and Persian god of battles and of light, Mithra. All Europe, as far north as Scotland and Belgium, is dotted with the ruins of his shrines, and the Roman army in the second and third centuries of our era was thoroughly Mithraic in sentiment. The story of the spread of this religion, which is being told in the current numbers of "The Open Court" by Professor Franz Cumont, of Ghent, Belgium, the greatest authority in this line, reads like a romance.

EFFICIENT METHOD OF RESTORING LIFE.

A Parisian physician, Dr. J. V. Laborde, has perfected a method of restoring life in case of drowning and suffocation which appears to be more successful than any method hitherto practised. Persons who had been apparently dead for three hours or more have in this way been brought back to life. It is called "rhythmical tongue-traction," and consists in the periodical pulling of the tongue from twenty to twenty-five times per minute. This can be done with the hand, a handkerchief being wrapped about the tongue, but it is more easily and regularly performed by means of a simple machine driven by clockwork. The method has come into use in many hospitals in this country as well as in Europe, and the results are regarded as very valuable. The effectiveness of tongue-traction is based upon the fact that it directly excites the pneumogastric nerve, which is the nerve governing the action of the heart and lungs. In cases of drowning, tongue-traction is more effective than the old method of working the arms up and down to restore breathing.—Garrett P. Serviss in "The Cosmopolitan" for April.

CHOIR BOYS: Their Origin Traced—Distinguished Men Who Have Worn Cassock and Cotta. Frederic Dean says, in the April "St. Nicholas": From the days of King Solomon, when worship music was seemingly raised to the very highest point of perfection, and the large choral bodies of adult male singers were augmented from time to time with hundreds of women "and boys," the boy chorister flitted in and out of view, until the dawn of the Christian era, since when he has held almost undisputed and unbroken sway in the choir-loft and chancel. True, his services were dispensed with in the Sistine Chapel choir at Rome during the fifteenth century, but, at about the same date, boys were singing in the Chapel Royal in London, and they continue there to this day. The reason for the churchly bent of most of the modern British composers is that they were brought up as choir-boys. From the time of the Restoration, when Captain Henry Cooke was appointed "master of the children," the list of English musicians is virtually the list of the Chapel Royal and St. Paul boys grown to manhood.

Henry Purcell, the father of English opera, and Thomas Tallis, the father of English cathedral music, both were graduates from the Chapel Royal choir. Richard Farrant, William Byrde, Orlando Gibbons, Thomas Morley, and all the rest of the anthem and song writers of Merrie England down to Joseph Barnby and Arthur Sullivan, studied their musical a-b-c's in cassock and cotta. Barnby and Sullivan, both knighted for their distinction in music, the one for his work for the chancel, the other for work for the stage, were noted for their voices as youngsters. Barnby charmed listeners at York Minster by his solos, and Arthur Sullivan so captivated Thomas Helmore, the Chapel Royal choir-master, with his singing of "With Verdure Clad," that he was admitted to the choir when he was eleven years of age.

OWLISH OBSERVATIONS.

Any fool can find fault; most fools do.

We can always see why others should set a good example.

It is easier to buy the good opinion of the world than to merit it.

Appreciation is not always shown in a manner in which it is appreciated.

Empty barrels make the most noise; after them come those who have emptied them.

Every man has in him the capacity for running some business—usually some other man's business.

Every man who shows that he thinks as highly of himself as we do of ourselves we set down as conceited.—L. de V. Matthewman, in "Smart Set."

AMERICAN CLIMATOLOGICAL ASSOCIATION.

The nineteenth annual meeting will be held at

LOS ANGELES, CALIFORNIA,

June 9, 10, 11, 1902.

A tour from the East to some of the leading health and pleasure resorts of California, going westward by one of the great transcontinental routes and returning by another, with visits *en route* to some of the grandest scenic points in America, has been arranged for the coming spring and early summer. The time selected for the trip is most favorable for travel across the Continent and about the Pacific Coast, and the railway journey will be made in the most comfortable manner possible, and with all the luxurious appointments of vestibuled Pullman palace sleeping cars, etc. The business details of the excursion have been intrusted to the competent hands of the Raymond & Whitcomb Company.

There is to be a sojourn of four days at Los Angeles, during which the sessions of the annual meeting of the Association will be held, and other halts will be made for shorter periods at numerous points, not only in California, but on the way to and from that delightful region, as mentioned in the annexed itinerary, which outlines the movements of the party from day to day.

The price of the complete tour from Boston, New York, or Philadelphia, returning to same point, including all traveling expenses for the round trip, according to the itinerary, with a double berth (half a section) for each person, is $235.00; from Chicago back to Chicago, $185.00; from Kansas City back to Kansas City, $180.00; from Denver (passage only from Denver to La Junta) back to Denver, $170.00. Apply for tickets, sleeping-car reservations, and any further information required, as well as for additional copies of this circular, to the

RAYMOND & WHITCOMB COMPANY,
296 Washington Street, Boston,
25 Union Square, New York,
1005 Chestnut Street, Philadelphia,
103 Adams Street, Chicago.

SANITARY SCIENCE.

A SYNOPSIS OF SANITARY SCIENCES AS REPRESENTED IN THE SANITARIAN, ALPHABETICALLY.*

BY THE EDITOR.

Denison, Chas., Outdoor Life, vii, 337; Even Division of Climate, xv, 152; Preferable Climate for Phthisis, xix, 227; Abnormal Intra-Thoracic Troubles and Their Treatment, xxv, 406; Presidential Address, American Climatological Association, 401; Degenerative Heredity, xxxv, 509; Preliminary Remarks to the Discussion of Tuberculosis, xliii, 428.

Dennett, H. E., How to Save Teeth from Decay, xii, 536.

Dennis, L. Hatting, vii, 362.

Dennis, T., Building Material, xxxviii, 417.

Densities of Oxygen, Nitrogen and Argon, Leduc, xl, 411.

Denslow, Le G. N., Climate of Long Island, xlvii, 415.

Dentists, Quack, Protection from By-Law, xxix, 95.

Dentistry, Prehistoric, xl, 189.

Dentistry, Proposed Legislation to Regulate, xlii, 140.

Department of Public Health, Report of Committee (American Medical Association) on, xxxvi, 532; Proposed Bill for, xxxix, 509, 547.

Dependent Classes, Suggestive Statistics of, W. P. Letchworth, xxxvi, 235.

Dependent Children and Family Homes, W. P. Letchworth, xl, 3.

Dependency, Public Statistics, Relating to, Letchworth, xlvi, 129.

Destruction of Private Property Dangerous to Health, xxxvi, 152.

De Pietra Santa, P., Erythroxylon Coca, xxvii, 38.

Dermatoses Following Shock, xxii, 57.

Desroches, J. I., Hygiene in Medical Education, xxxiv, 228.

De Schweinitz, E. A., Lamp for the Generation of Formaldehyde Gas, xxxvii, 502; The War with the Microbes, xxxviii, 393.

Dessau, S. H., *et al.*, Sanitary Condition of New York, xxxii, 219.

Destrée, M. E., Pulmonary Tuberculosis, xxxiii, 57.

Detection of Suet Butter, iv, 90.

Determination, xlvii, 243.

Detroit Board of Health? viii, 228; ix, 521; x, 569.

* Continued from previous number.

Detroit Sewers, xi, 762; xii, 173.
Dewey, L. H., Weeds in Cities and Towns, xliii, 324.
Dewitz, J., Hygiene of Ash Cans, Infection, xxviii, 441.
Devonshire, E., Purification of Water by Means of Metallic Iron, xxv, 3.
Dewar, *et al.*, Signification of Oxygen, xxxiii, 342.
De Wolf, O. C., Results of Attempt to Check the Spread of Small-pox, ix, 393.
Diabetes, A New Agent for, xxi, 192; Formula for the Treatment of, Robin, xxxv, 144.
Diabetes, The Heart in, Weber, xxxiii, 193.
Diabetic Coma, Lime Water as a Preventive of, xxiii, 85.
Diabetes, Treatment of, A. B. Garrod, xxxvi, 248; Pavy, xxxix, 444; Benson, xlv, 334.
Diagnosis of Disease, The New Means of, xliii, 57.
Diagnosis, Mistaken Results of, Thos. W. Gordon, xviii, 216.
Diarrhœa, Epidemic, Contribution to the Study of, Neusholm, xliv, 236.
Diarrhœa, Green, Lactic Acid in the Treatment of, xxiii, 276.
Diarrhœa Infantile, Treatment of, xxv, 84, 274, 564.
Diarrhœa, Summer, in Children, Love, xli, 138.
Dickinson, W. H., Morbid Effects of Alcohol, i, 224.
Didama, H. D., How to Prevent the Spread of Typhoid Fever, xi, 195.
Died of Hair Dye, iii, 364.
Diet in Relation to Age and Activity, Sir Henry Thompson, xv, 202.
Diet Cure, A, xl, 545.
Diet for Health, John Auld, xxxiv, 118; in Health, xlii, 379.
Diet, Rice, vi, 261.
Diet, Tropical, Proper, L. L. Seaman, xliii, 12.
Dietaries and Dietary Standards, W. O. Atwater, xxxvi, 316.
Dietaries of the Slums, Bache, xlii, 107.
Dietary Scales in Connection with the Health of Seamen, W. Spooner, xxvii, 457.
Dietary Studies in the United States, A. P. Bryant, xliii, 129.
Dietetic Management of the Summer Diarrhœa of Infants, A. V. Meigs, xxi, 163.
Dietetics and Infant Feeding, E. A. Wood, xxi, 97.
Differences in Vaccine Lymph, S. W. Abbott, xxxiii, 414.
Differentiation, Physics and Physiological Action of, I. H. Platt, xvii, 127.

Diffusion of Heat, B. Stewart, vii, 204.
Diffusion of Sanitary Knowledge, Nathan Allen, x, 405.
Digestion, The Chemistry of, M. J. Winter, xxx, 266.
Digestion, Influence of Tea, Coffee and Cocoa on, Jas. W. Frazer, xix, 308.
Digestion vs. Drugs, S. A. Fisk, xxxix, 23.
Digestion and the Urine, Bardet, xlvi, 431.
Dike, S. W., Woman's Work, xxix, 561.
Dinners and Dinners, xxxii, 186; Six Minutes for, 509.
Diphenylmethylpyrazol, xxi, 477.
DIPHTHERIA, CAUSES AND NATURE OF, with a Review of the BACTERIAN THEORY, J. Lewis Smith, M.D. . . . "Since the death of Bretonneau, some twenty-five years ago, it has been abundantly proved that diphtheria is communicable otherwise than by inoculation, for the result of numerous chemical and microscopic investigations has been to nearly demonstrate that the disease is contagious by contact with the patient, through exhalations from the surface and through his breath. And it is thought that the cause of diphtheria has been found in the existence upon the diseased parts in the diphtheritic cases, of small vegetable parasites, which are endowed with life and motion, and which have been designated *bacteria*. These parasites increase in number as the disease increases in intensity, and if diptheritic inflammation attacks any surface which is covered by the parasites, which cause certain other diseases, such as catarrh, the parasites diminish and disappear, as though deprived of the required nutriment. And on the other hand, when diphtheria disappears, other vegetable forms may succeed. The grayish-white spots which appear upon inflamed surfaces at the beginning of diphtheria, are entirely composed of these bacteria, which have come in contact with the mucous membrane and have adhered to it, and which, unless prevented, will multiply rapidly, and then by burrowing through the tissues, will infect the whole system." . . ii, 509.

The progress of knowledge on this eminently suggestive field of view, as exhibited by Dr. Smith twenty-eight years ago, is thoroughly comprehended in the contributions which follow. Facts in the History of Elisha Harris, ii, 511; vii, 106, in Northern Vermont, Harris, 353; Prevention of, E. R. Maxon, ix, 145: Nests, in Brooklyn, x, 235; in the Chief Cities, xiv, 272; xvii: Epidemic, iii, 284. 369, 475; with Scarlet Fever and Measles, 94, 180; Abroad, xviii, 379; Relation of Sewerage and Water Supply to, Chas. W. Earle, xix, 236; Contagiousness of, xx, 510; from Birds

and Other Animals, xxi, 288; xxii: The True Relations of to Filth, 89; Prevention of, 264; Topical Treatment of, 283; Contribution to the Etiology of, Klein, xxv, 210, xxvii, 102; in High Altitudes, W. A. Jayne, xxvii, 439; Seaton, Schrevens, *et al.*, at International Congress of Hygiene in London, 1891, xxvii, 447; xxviii: Propagated by Infected Rags, 226; Peroxide of Hydrogen in, 382; Diphtheritic Poison as Acted Upon by the Soluble Ferments, 469; Reflections on, M. Guelpa, xxix, 537; Manure Nuisance and, John C. Thresh, xxx, 114; in Nova Scotia, E. P. McLean, xxxi, 452; The School in Relation to the Spread of, P. H. Bryce, 376; Diagnosis of and State Sanitation, xxxii, 208, 289; and Sewer Air, xxxiv, 233; Antitoxin in, xxxiv, 243; xxxv: 289; Antitoxin Treatment, 86; Walsh, 446; Cultivation of in Brooklyn, 543; in Croton, Iowa, 272; in Detroit, 275; in Minneapolis, 276; Microscopic Diagnosis of Crouch, 490; Pilocarpin as a Prophylactic in, Szeklai, 444; Serotherapy in, Cougenheim, 72; Angina, Dieulafoy, 145; xxxvi: 40; Treatment of with Tinc. Myrrh, 54; Mortality from, Since the Introduction of Antitoxin Serum, Monod, 156; How Sustained in Brooklyn, 551; and Antitoxin in Japan, 557; xxxvii: Pain and Rest in, 524; Prevalence of, 536; xxxviii: Causation of, MacKenzie, 33; Paralysis and Nerve Changes, 244; in Adults, Gouguenheim, 348; xxxix: Calomel in, Judd, 32; Statistics of, 155; from Chewing Gum, 158; Streptodiphtheria, Souvestre, 255; Relation of Unsanitary Conditions, Mivart, 412; and Bacteriology, Barbier, xl, 41; M. Souvestre, xli, 40, Antitoxin in Serum, of Great Power in, xli, 31; xlii: Diphtheria and Antitoxin, 156; D. Bacillus, 244; D. Nest, A Typical, 362; xliii: Antitoxin Treatment, Kinyoun, 234; Jones, 529; Official Definition of, Hill, 527; xlv: and Milk Supply, 457; Newark's Antitoxin Plant, Herold, 498; The Persistence of in the State of New York, Macy, 318; Diphtheritic Paralysis, Treatment of, Ballau, xlvii, 447.

Diplomacy, Mr. Cleveland's, xlvii, 184.

Diplopia, Monocular, xxx, 358.

Directions for the Prevention of the Spread of Infectious Diseases, J. M. Maglagan, v, 13.

Dirt, The Harlem Flats, iii, 184; ix, 183.

Dirt and Dirty Milk, Brush, xv, 406.

Dirt is Catching, xlii, 536.

Dirt and Yellow Fever, xl, 542.

Dirty Dogs, iv, 90.

Dirty Thermometers, xxxvi, 531.

Discoverer of a New Specific for Croup and Diphtheria, Chancellor, xxxiii, 481.

Discoveries and Inventions, Meritorious Rewards for, xxxii, 190.

DISEASE ON THE DEFENSIVE. Editorial (1882).—"The proprietor of a hotel was doing a prosperous business, guests were flocking thither, as they frequently do at seaside and other summer resorts, without a thought of hidden dangers. Two of the guests were taken ill with typhoid fever. Straightaway there was a stampede among the other guests of the house. The proprietor seized the opportunity of making sure of his summer profits, and demanded the immediate removal of his sick guests. Their physicians decided this could not be done without risk of life. So much the better for the proprietor—*he* was not to be foiled by such a judgment. In defiance of it, humanity and law, his decision matured at the unseemly hour of four o'clock in the morning. The time was propitious for his exaction. The relatives of the sick were able to pay and rather than risk the danger of forcible ejectment, paid him his demand, $2,500 each (for making them sick). . . . His loud talk at the outset about the sick having contracted the disease elsewhere . . . quieted down under new discoveries. Two servants who have been in the hotel and not elsewhere for two months also have the fever—and there are rumors of others. . . . Subsequent inspection of the premises discovered unventilated cesspools, water-closets with insufficient water for flushing leaky pipes and foul soil," x. 561.

Disease, A New, xi, 151.

Disease, A, Not Curable by Physic, xii, 239.

Disease, the Beneficence of, A. N. Bell, xxvii, 193.

Disease, Distribution of, by the Isthmian Practice in the Burial of the Dead, Wolfred Nelson, xxxi, 377.

Disease Dust, xxxvi, 540, 551.

Disease and Damp Soils, v, 537.

Disease, Furnace-Air Supply Boxes as Vehicles of, Edgar Holden, xi, 179.

Disease Germs, Sternberg, *et al.*, xiii, 544; Facts About, xxxii, 284; Transmission of by Flies, 485.

Disease Germs, Life of, in the Soil, xxxvi, 345.

Disease, Hunt to Destroy, xlii, 230.

Disease, Natural Selection and Immunity from, or the Hygiene of Nature, R. J. Curtiss, xvii, 3.

Disease, Spread of, by Flies and Gnats, xlii, Veeder, xlii, 409.

Disease, The Doctor as a Carrier of, Howell, xliii, 151.
Disease, Transmission of by Rags, xix, 355.
Disease, The Relation of Bacteria to, xxiv, 253.
Disease and Death, Prevention of, H. B. Baker, xxx, 509.
Disease, Foods in, George Fisk, xxxvii, 135.
Disease, Prevention in New Jersey, xxxix, 41.
Disease, Prevention and Its Hindrance, Lachapelle, xxxiii, 385.
Disease of Suggestion, xxxv, 291.
Disease, Universal of the Modern City, xxxiii, 281.
Disease, Marvelous Victory Over, xliv, 364.
Disease Notification, xliv, 59.
Diseases, Dangerous, Are Spread, How, xlvi, 69.
Diseases, Infectious, Spread Through the Milk Supply, xlvii, 148.
Diseases, Legal Responsibility For.—Judge Dixon, of New Jersey, in a charge to the Grand Jury, said: "If a man conscious that he carries about with him the germs of a contagious disease, recklessly exposes the health and the lives of others, he is a public nuisance and a criminal, and may be held responsible for his conduct. . . . It is held that where a person knowingly communicates a contagious disease to another and death results, the crime is that of manslaughter." . . . xi. 74.
Diseases, Mental, Prevention of, Mosel, xliv, 40.
Diseases Are Preventable, If Certain, Why Are They Not Prevented? George M. Kober, xlvii, 117, 118.
Diseases, Prevention of in Massachusetts, xxix, J. F. A. Adams, xxix, 335.
Diseases, Various, Special Preventive Measures Needed For, Prof. Robert Koch, xlvii, 198.
Diseased Meat in Profusion, xxxvi, 76.
Diseases, Communicable, xl, 104.
Diseases of the Lower Animals, Relationship of, to Man, James Law, xxix, 321.
Diseases, Contagious, The Extinction of, Walter Wyman, xxxi, 193.
Diseases, Constitutional Liability to, M. H. Simons, xxiv, 248.
Diseases Contracted from "Lower Animals," xxi, 565.
Diseases Epidemic, National Protection Against, xxiv, 455.
Diseases, Infectious, Prevention of the Spread of, x, 561. xi: C. N. Hewitt, 52; O. W. Wight, 241; Legal Responsibility for, Judge Dixon, 74; Abroad, Corbally, 20, 90; Epidemic before Congress, 97; Investigation of by the International Congress, xiii, 523. xvii: Dangerous, the Introduction of, H. B. Ba-

ker, 61; Act to Prevent the Spread of, 65; Abroad, 93, 179, 283, 368; Interstate Notification, C. N. Hewitt, 343, 438; Needful Precautions Against the Spread of by Travel, G. P. Conn, xxxii, 501; Proposed Reclassification of, W. H. Thompson, 563.

Diseases, New, Advent of, xxxv, 101.

Diseases of Our Own Causing, v, 72.

Diseases Propagated by Drinking Water, Ch. Smart, xxii, 492.

Diseases, Queer, and Queer Cures, xliii, 58.

Diseases of the Ear from Bathing, Samuel Sexton, vi, 315.

Diseases of Lemon Trees, iii, 271.

Diseases, Nervous and Mental, Observed in Colorado, J. T. Eskridge, xxvi, 163, 213.

Diseases, Relation of Meteorological Conditions to, N. S. Davis, xxviii, 3.

Diseases of Poverty, H. H. Schaberg, xvii, 136.

Diseased Animals, Dangers of the Food-Consumption of the Flesh of, xii, 338.

Diseases, Microphytic, Prevention of, E. M. Hunt, xix, 418.

Disguised Syphilis, x, 669.

Disinfectants, i, 267; Disinfecting Pastilles, v, 90; When They Should Be Used, v, 110; a New Disinfectant, vii, 245; a Valuable, for Sewers, xi, 196.

Disinfectants and Disinfection, B. A. Segur, E. R. Squibb, A. N. Bell, i, 289-297; iii, 279; v, 380; in New Orleans, 477, by Heat, Bell, vii, 433; Massachusetts State Board of Health, viii, 216; by Heat, ix, 233; of Clinical Thermometers, x, 238. xi: By Hot Air, Koch and Wolfhugel, 59; of Fruit Boxes, 59; at the Mississippi Quarantine Station, Joseph Holt, xiii, 152. xiv: 251, Disinfection of Vessels, 551; of Rags, 552. xv: Action of Disinfectants on Microzoids, A. Wynter Blyth, 524; Bell and Holt on, 562; Disinfection of Cattle Trucks, 333; of Rags, W. M. Smith, 481; "Sulphur Vacuum" Process of, 451. xvi: 28; A New Agent—Naphthol, 120; of Sewers, Experiments in, O. W. Wight, 344; of Imported Rags, Bell, 539; Internal, in Treatment of Cholera, Jackson Piper, 385. xvii: 139; Sufficiency of Steam Heat, Joseph Holt, 331; Reports of Committees (A. P. H. A.) on Disinfectants, 351; on Disinfection of Rags, 347; Dry Heat and Steam as, Compared, xviii, 123; Steam Disinfection, xix, 217, 242, 429; xxii, 148, 351.

Disinfection in Quarantine, xx, 542. xxi: The Chlorides as, 192; Corrosive Sublimate as a Practical Disinfectant, W. B. Hills, 331; Disinfectant of the Air—Eucalyptol, 570. xxii: Disinfection of the Hands, 95; Disinfection by Steam, 148, 351; The Value of Mercuric Chloride as a, V. C. Vaughan, 193; Disinfection and Tempering of Rubber Drains, 377; Disinfectant Soap, xxiii, 87; A New Disinfectant for Sewage, xxv, 124, 127; for Rooms, 278. xxvii: Corrosive Sublimate as, A. C. Abbott, xxvii. 15: Eucalyptus as, 280; Testing Disinfectants, Max Gruber, 542; of Excreta, Sternberg, 302; of the Living Body, Behring, 541; Against Cholera, at Quarantine Stations, Sternberg, xxx, 299; Electrolytic Methods of, at Havre and Rouen, 506; Disinfection of Baggage of Immigrants and Crews of Immigrant Ships, xxxi, 379; of Letters, xxxii, 365; Disinfection on Long Island, xxxii, 125; Disinfecting Plant at Riker's Island, xxxiii, 380. xxxv: 290; Disinfection in American Cities, 488; of Mails, 489; of Tubercle-Infected Houses, Sheridan, 74. Disinfectants and Antiseptics, A. G. Young, xxxvi, 47; Facilities in Quarantine, xxxvii, 275; Plant at Ellis Island, xxxviii, 252; Disinfection of Soiled Linen, 504; by Vapor of Phenols, Johnson, xxxix, 319; New Disinfectants, De Buck, 258; of Books, xl, 96; Disinfection with Formaldehyde Gas, xl, 67, 258, 447, 516, 520; Report of Committee A. P. H. A.: F. C. Robinson, xlv, 507.

"Report of the Committee on Disinfectants," American Public Health Association (1887), Geo. H. Rohe, Secretary of the Committee.

"The results with regard to the efficiency of heat as a disinfectant were summed up as follows:

"The temperature required to destroy the vitality of pathogenic organisms varies for different organisms.

"In the absence of spores, the limits of variations are about 18 degrees Fahrenheit.

"A temperature of 132.8 degrees Fahrenheit is fatal to the bacillus of anthrax, the bacillus of typhoid fever, the bacillus of glanders, the spirillum of Asiatic cholera, the erysipelas coccus, to virus of vaccinia, of rinderpest, of sheep-pox, and probably of several other infectious diseases.

"A temperature of 143.6 degrees Fahrenheit is fatal to all the pathogenic and non-pathogenic organisms tested, in the absence of

spores (with the single exception of *Sarcina lutea,* which, in one experiment, grew after exposure to this temperature).

"A temperature of 212 degrees Fahrenheit maintained for five minutes destroys the spores of all pathogenic organisms tested.

"It is probable that some of the bacilli which are destroyed by a temperature of 140 degrees Fahrenheit form endogenous spores, which are also destroyed at this temperature."

. "When Dr. Rohe concluded, A. N. Bell expressed his special gratification with the results of laboratory work, during recent years, in demonstrating the efficiency of heat in destroying the vitality of disease germs *per se,* at very nearly the same temperature which he had claimed and published (in the Proceedings of the Medical Society of New York) twenty-three years ago—namely, that a temperature of 145 degrees Fahrenheit effectually disinfects the worst fomites, and which he had repeatedly demonstrated since 1848."—xix 429.

Disinfection and Prevention in the Sick Room, Harrington, xliv, 131.

Disposal of City Garbage at New Orleans, The Rev. H. M. Thompson, vii, 545.

Disposal of Garbage and Refuse, Rudolf Herring, xxxix, 485.

Disposal of Waste in Country Places, H. B. Bashore, xxxvi, 213.

Disposal of the Dead, Geo. Bayles, ii, 97; Frederic Gundrum, xii, 532; John Morris, xvi, 50; xviii, 411; Edwin Chadwick, xxi, 309; Thompson and Haden, xxvii, 532; In India, Converse, xxviii, 129; C. O. Probst (Report A. P. H. A.), xxxv, 503.

Disreputable, xxix, 84.

"Dissection," Mr. Brown's, About Traps, Reply to, xviii, 524.

Distilled Spirits, Collections from, xxvii, 239.

Distilled Water for Druggists' Use, J. C. Bayles, iv, 44.

Distribution of the Sexes in the U. S., Wilcox, xxxvi, 558.

District of Columbia, Health Report x, 566.

Diuretics, xlii, 528.

Diuretin, xxxix, 58.

Divine Healing and Osteopathy—Christian Science, Bullard, xliii, 349.

Divorce and Suicide, xxxvi, 464.

Divorce, Increase of, xxxviii, 93.

Dix, The Late General John A., and Abernethy, xi, 631.

Dixon, Judge, Contagious Diseases and Legal Responsibility for, xi, 74.

Dixon, S. J., Application of Water Spray to the Ventilation of

Water Closets, xxiv, 342, 442; Purification of the Air from Hot-Air Furnaces, 239.
Do You Live Over the Shop? Query for Life Insurance, ii, 200.
Doctor, The Family, vs. The Specialist, Caille, xlvi, 476.
Doctoring Farm Animals, xi, 560.
Doctor's, A, Troubles, xxxii, 406.
"Doctors," vi, 307; Doctors, or The Science of Thought Among the People, W. R. Bartlett, vii, 112. xi: Doctors' Dinners, 185; Doctors of Medical Science, 186; A Doctor's Diploma Before a Jury, 407; Doctors' Mistakes, 794.
Doctors in the English Army, v, 335.
Doctors' and Lawyers' Fees, xiii, 55.
Doctors Disagree, When, Kiser, xl, 341.
Doctors Supersensitive, xl, 345.
Doctors, Too Many, xlvi, 246.
Dodge, H. O., Acclimation of the Consumptive to the Climate of Colorado, xxvi, 215.
Does It Hurt? xl, 339.
Does Vaccination Protect? x, 309.
Dogiel, A, The Albuminoids in Milk, xvii, 436.
Dogs, Mad, xxiii, 49.
Dogs, A New Infectious Disease of, xliii, 162.
Doland, F., Recent Agents Used in the Treatment of Cholera, xxxi, 41.
Domestic Garbage Burner, S. H. Durgin, xxxiv, 137.
Domestic Garbage Disposal, W. F. Morse, xxxiv, 298.
Donaldson, Frank, Pulmonary Consumption in Cities, iv, 62.
Donkin, Horatio, Dangers of Childhood, viii, 538.
Donlin, F. W., Prevention of Gout, xxxiv, 234.
Donnelly, Mrs. E. O., Nil Desperandum, vi, 252.
Donohue, F. O., Examination of Milk Supply, xxxiii, 486.
Doré, J. E., Ventilation of Schools, xxxiv, 208.
Doremus, R. Ogden, Milk in its Medico-Legal Aspects, iv, 131; Epidemics from a Chemical Standpoint, vii, 308.
Doty, A. H., The New Health Officer of the Port of New York, xxxiv, 178.
Doty, A. H., Present Status of Typhus Fever in New York, xxxi, 73; Quarantine Methods, xlv, 486.
Dougall, John, Prevention of Putrefaction, iii, 259; Milk as a Vehicle of Infection, xii, 105.
Dover's Powder, Composition and Use of, xxxvi, 439.
Drag-Net, The Fashionable, Spalding, xliv, 206.

Drainage Canal Opened, Chicago, xliv, 165.
Drainage, Combined: Its Pros and Cons, Joseph Priestly, xlii, 32.
Drainage, House, in Relation to the Public Sewers, Roechling, xlv, 298.
Drainage for Health (See *Defective* Drainage), Elisha Harris, ix, 510; R. C. Kedzie, xiii, 303.
Drainage of Okefinokee Swamp, xxx, 345.
Drainage and Sewerage of Cities, G. E. Waring, Jr., vii, 530.
Drainage, Newport, R. I., H. R. Storer, x, 255.
Drainage of the City of Mexico, Gayal, xxvii, 504.
Drainage of the Valley of Mexico, Francisco de Garay, xi, 451.
Drainage, Underground, Sanitary and Unsanitary Relation of, P. H. Bryce, xxvii, 240.
Drainage and Water Supply in North Carolina, W. C. Kerr, iv, 39; Drainage of Residence of British Legation, Washington, xi, 11.
Drainage, Size and Ventilation of Soil Pipes, xi, 180, 457.
Drainage, A Novel System of, xv, 15; Political, 544; House Drainage, Sanitary Plumbing, James Allison, xvi, 422; Drainage of the Croton Area and Purification of the Water, E. H. Janes, *et al.*, Report on, xviii, 139; House and Sewerage, Wm. Owens, xx, 238.
Drainage of New York City, Rudolf Herring, xxiv, 30.
Drainage and Sewerage of Bremen, Keenan, xxxv, 109.
Drainage and Sewerage, House, Boobbyer, xlii, 26.
Drainage and Sewerage—New Orleans, xliii, 299.
Drains and Soil Pipes, size of, xi, 457.
Drains, House, Construction and Ventilation of, Hill, xlii, 28.
Drains, Something Wrong with the House, Noble, xxxvii, 489.
Drains, House and Health, W. E. Hoyt, xxi, 34.
Drake, S. W., Jefferson and Vaccination, xliii, 52.
Draper D., Ozone and Pneumonia, xvi, 546.
Dreams, Speaking Out in, xliii, 203.
Dress, Health and Comfort, x, 563; xiv, 480; Artistic and Hygienic, xxxv, 100.
Drew, E. S., First Case of Yellow Fever in New Orleans, 1878, viii, 35.
Dried Apples, Poisonous, xxxiii, 180.
Drill, A Sitting, for School Children, Hagadorm, xliv, 564.
Drink, the Cost of, viii, 485; A Safety Drink for Working People, xi, 71.
Drink Bill of the United States, xxxii, 472.

Drink Problem, the Railroads and the, xl, 39.
Drink Statistics, xlvii, 514.
Drink Question, The, Archdeacon Farrar, xxv, 132; xxx, 414.
Drinkers and Children, xxxiv, 435.
Drinkers to Get License, xlvi, 445.
Drinking Water, Abroad, Sir Henry Thompson, viii, 123.
Drinking Water, Impurities in, Alfred Carroll, Leopold Brandeis, iii, 92.
Drinking Water, Contamination of, V. C. Vaughan, viii, 156.
Drinking Water of Plymouth, Pa., and Typhoid Fever, E. Waller, xiv, 534.
Drinking Water and Its Relation to Malarial Diseases, Richard H. Lewis, xxxiii, 406.
Drinking Water and Typhoid Fever, Relations of, Benjamin Dowling, xviii, 511.
Drinking Water, Analysis, xxii, 483; Pollution of and the Results of Filtration, Ch. Smart, xxxiii, 399.
Drinks, Warm, Action of, Montagnon, xxxix, 354.
Drouth-Resisting Plant, A, xl, 382.
Drown, T. M., Newport Water Supply, xxviii, 394.
Drug Clerk, The Wonderful, xix, 192.
Drugs of Good Quality, The Chance for Getting on Prescription, xxiv, 90, 476.
Drugs, To Check Substitution of, xxxvi, 55.
Drugs, Recent in Medical Practice, xxix, 539.
Druggists, Some Things Ordered at the, xliv, 53.
Druggists' Samples, xxxiii, 525.
Drummer, A Dangerous, xlii, 535.
Drunkard, Definition of an Habitual, xxxv, 350.
Drunkards, To Punish in Minnesota, xxiii, 152.
Drunkards, How Treated in Denmark, xxxix, 163.
Drunkenness a Vice, It Should Be So Treated, Bell, xxxvii, 311.
Drunkenness, an Acquired Vice—Not Hereditary, The "Lancet," xlvii, 42.
Drunkenness, A Cure for, Forel, xxxv, 400.
Drunkenness in Great Britain, xii, 492; xxiv, 84.
Drunkenness, Mortality and Disability from, xxxvii, 556.
Drunkenness and Responsibility, xxiv, 417.
Drunkenness, Rational Treatment of, E. L. Swift (U. S. A.), xxxvi, 260.
Drunkenness, and How It Should Be Treated, Answer to National Temperance Society, Bell, xlvi, 350.

Dry Air, The, Fallacy, with Regard to Consumption, xxiv, 47.
Dry Wells and Their Dangers, viii, 427.
Drysdale, D. C., Influence of Easy Circumstances on Longevity, xix, 223, 542.
DuBois, J. T., Food Adulteration in Europe, xlv, 220.
Duck, How to Cook, xi, 647.
Duckworth, I., Milk, x, 18; Use and Abuse of Alcohol, xxvii, 533.
Dufton, A., Production of Artificial Light of the Same Character as Daylight, xlvii, 334.
Dujardin-Beaumetz, Hygienic Therapeutics, xx, 317.
Durham, House-Drainage, xxii, 64.
Dump, A, Wanted, xlii, 363.
Dumps, City, and Disease, xliii, 242.
Duncan, J. M., Cholera Infantum, xxxvi, 439.
Dunphy, G. W., Tuberculosis Among Animals, xliv, 27.
Durant Gymnasium, xlii, 43.
Durgin, S. H., Progress of Practical Sanitation, xxxi, 481; Domestic Garbage Burner, xxxiv, 137; Medical Inspection of Schools, xxxv, 502; Relation of Contagious Disease to School Work, xlvi, 137.
Dust Dangers, xliv, 170; xlvii, 269.
Dust Problem, The, and Asphalt Paving, xlv, 347.
Dust on Your Glasses, Maud Manring, vi, 357.
Dust, Mist and Clouds, Aitkin, xi, 312.
Dust and Dirt, xxxix, 259.
Duty Above all Consequences, xlvii, 249.
Duty of the Health Department, Moreau Morris, v, 162.
Duty, Victims to, xxxi, 549.
Duties of Physicians and Sanitarians, xvi, 181.
Dwelling Accommodations in Large Cities, T. de C. Meade, xlii, 3.
Dwelling-House, Daylight in the, John Brett, xxx, 401.
Dwelling Houses for Working People, vii, 303.
Dwelling Houses in Town, Hygiene of, Pucey, xlv, 303.
Dwellings and Hotel Bedrooms, Unsanitary, Challamel, xlv, 310.
Dwellings, The Squalid, of the Poor, C. W. Chancellor, xiii, 527.
Dwellings, Sanitary for Wage Earners, Kober, xlvii, 112.
Dwellings, Unsanitary, Social Evils Resulting from, Chancellor, xlvii, 328.
Dysentery, Treatment of, Gastinel, xliv, 146.
Dysentery, Salol in, xxii, 92; xxiv, 479.
Dyspepsia, Alkalies in, Mathieu, xl, 535.
Dyspepsia, Fermentative, Austin Flint, xxxii, 36.

Dyspeptic Troubles During Infancy, xxiv, 480.
Dyspepsia Treated with Hydrozone, Gilbert, xliv, 356.
Eagle, The, or the Hen, xlvii, 383.
Ear Wax, to Remove, xliii, 240.
Earle, C. W., Relation of Sewerage and Water Supply to Diphtheria, xix, 236; Artificial Foods, xxi, 129.
Early, C. R., The So-called Pleuro-pneumonia in New Jersey, xv, 327.
Early Death of Teachers, v, 314.
Earth, the Very End of, xxxiii, 187.
Earth's Temperature, The, Determining the Increase of, Toward Its Interior, xv, 365.
Earth Closets, iv, 368; Special Advantages of, U. R. Bartlett, xi, 697.
"Earthy Substance"—Pills found in the Ruins of Pompeii, xxv, 332.
Eastern Question, The, xxxvii, 92.
Easterday, J. S., The Weather Bureau in Its Relation to Medical Climatology, xxxviii, 313.
Eastman, H. G., Water Supply of New York, v, 51.
Eastwood, J. F., Organic Contamination of Soils, xix, 151.
"Eat All You Can, Mother," xlvi, 478.
Eatables, C. B. Radcliff, x, 731.
Eating, The Art of, xi, 522.
Eaton, D. B., Sanitary Administration in Cities, i, 496; Homes of the Laboring Classes, iii, 145, 225.
Eaton, John (Commissioner of Education), Sanitation and Education, ix, 105, 159; Foul Air of Gymnasium Classrooms, xiii, 42; Medical Colleges and Preventive Medicine, 51; Education in the United States, xiv, 289.
Ebermeyer, Prof. E., Hygienic Value of Forests, xxvii, 525.
Ecstein, D., Vital Statistics of the Netherlands, xi, 359.
Eczema Accompanying Dentition, xxiv, 185.
Eczema, Picric Acid in the Treatment of, M. Gancher, xxxix, 56.
Eczema, Treatment of, xlvii, 453.
Eddyism, For the Prevention of, xlvi, 345.
Edible Birds' Nests, xxiv, 112.
Edinburgh and Leith, Sewerage of, McBride, xxxv, 366.
Editors, American Medical, xi, 412.
Editors, Bald-headed, xix, 339.
Edson, C., Typhoid Fever at Plymouth, xiv, 530; Milk Supply

from Cities, xix, 240; Water Supply of Summer Resorts, xxi, 211.
Education, Abroad, xiii, 27, 156; xvii, 537.
Education, The Best, xx, 528.
Education of the Blind, xxvii, 546.
Education, Public, in Brooklyn, xxi, 251; xxix, 75.
Education of Girls, as Connected with Their Growth and Physical Condition, Nathan Allen, vii, 385.
Education and Crime in France, xi, 56.
Education and Heredity, iii, 38.
Education for the Kitchen, vii, 165.
Education, Medical, Higher—Hygiene, xxvii, 125.
Education in Relation to Health, D. Clark, xxi, 193.
Education, Science in, xlii, 380.
Education in the State, xliv, 253.
Education in the United States, iv, 77; John Eaton, Commissioner, vi, 385; ix, 208; Blair, x, 449; One Defect of, xi, 299; xii, 250; xiv, 289; xvii, 223; xx, 57, 108.
Education, The Higher, and the American Life, Nathaniel Butler, xliv, 97.
Education, Popular, xxxvii, 409.
Education and Sanitation, W. H. Watkins, xii, 152.
Education of the Races, Chas. S. Young, xviii, 404.
Education, Sanitary Science in, A. W. Leighton, xix, 205.
Education, Shortest Road to, Ideal Sanitation, xliii, 37.
Education in Chicago, Sexless, xxxv, 477.
Educational Methods, Evil Results of, S. P. Wise, xl, 422.
Educational Notes, Richard McSherry, v, 362.
Effects of Alcohol, Frederic Horner, Jr., *et al.*, ii, 174.
Effects of Breathing Foul Air, v, 553.
Effects of Change of Temperature on Health, i, 37.
Effect of Filtration of Water Supply, xxxiii, 495.
Effects of Cold on Milk, vii, 175.
Effects of School Life upon the Eyes, C. R. Agnew, iii, 300.
Effect of Freezing on Yellow Fever, vii, 347.
Effects of Loss of Consciousness upon the Memory of Preceding Events, F. H. Hamilton, iv, 49.
Effects of Worry, ii, 304.
Effects of Zymotic Diseases upon the Teeth, F. S. Whitslar, xviii, 532.
Effectual Treatment for Acute Alcoholism, xxxvi, 18.
Effluvium, Human, xxiv, 29.

Effluvium Producers, Kings County, xl, 163.
Egan, P. R., The Army Ration in the Tropics, xliv, 129; xlvii, 395; Some Reasons for the High Death-rate in Porto Rico, xlv, 528.
Eggleston, E. R., The Relation of Chemistry to Public Health, xvi, 486.
Eggs, About—The Portable Hen, xlvi, 39.
Eggs, Frozen Hard—Cold Storage, xlvii, 529.
Eggs, Hens, in Infant Feeding, xliv, 414.
Eggs, The Preservation of, Thieriot, xl, 229.
Eggs, Shelled, xxxv, 440.
Egg-Structure and The Heredity of Instincts, Prof. Loeb, xxxix, 186.
Egotist's Cure, The, xxxvi, 153.
Egypt, No Tourists in, xi, 455; Vital Statistics of, xxxvi, 368.
Egyptian Village, A Typical, Kelly, xl, 477.
Eklund, A. F., Naval Hygiene—Ship Ventilation, xi, 230.
Electrical Currents Dangerous, J. M. Mitchell, xxiii, 48.
Electricity, the Near Future of, G. Cutler, xxiv, 43.
Electricity, A New Departure in the Application of, xi, 179.
Electricity and Coal Gas; Hygienic Comparison between the Lights, B. H. Thwaite, xi, 361.
Electric Lighting, Advantages and Disadvantages of, xxiii, 45; in Its Sanitary Aspect, vi, 407; Advantages and Dangers of, H. P. Brown, xxiii, 45; Some Dangers in, William McDevitt, xxviii, 130.
Electric Power and Light from City Refuse, Lord Kelvin, xxxix, 313.
Electricity, Frictional, xv, 129.
Electricity, Hygienic Benefit from, xxxix, 334.
Electric Lighting, Heating and Cooking, xxxvii, 477.
Electricity to Supersede Hanging in New York, xx, 544.
Electrolytic Methods of Disinfection, E. Hermite, xxx, 506.
Electro-Therapeutics, xxv, 371.
Electro-Therapeutic Association, The, xxviii, 571.
Electric Road, A Well-equipped, xxv, 250.
Elephantiasis, Mosquitoes as a Cause of, xlv, 336.
Elgin, F. W., Influence of Temperature on Vaccine Virus, xlv, 497.
Elevators, Safe, High Buildings and, xxxviii, 44.
Eliot, C. R., The Temperance Problem, xxxix, 337.

THE SANITARIAN.

JUNE, 1902.

NUMBER 391.

COSMOPOLITAN HEALTH STUDIES.*

By F. L. OSWALD, M.D.,
Author of "Physical Education," "The Remedies of Nature," etc.

IX.—JAPAN.

The natives of the North-Asiatic Island Empire have been called the Protestants of Buddhism, and their marvelous spurt of progress may be explained as a dam-break of energies which, for two thousand years, had been pent up by the influence of an anti-natural religion.

The rapidity of their emancipation is partly, also, due to the circumstance that they could profit by the experiments of their North Caucasian predecessors; but our imitators have reserved the privilege of eclecticism. The "Yankees of the East" have copied our sanitary by-laws without our blue laws, our beef extracts without our beef trusts, our stove-pipe flues without our stove-pipe hats.

They have imitated the architecture of our forts and factories, but the light, airy structure of their dwelling-houses has a good deal to do with their immunity from pulmonary disorders. The death rate from consumption is lower than in Switzerland, much lower, also, than in China, though the winters of the north islands are extremely severe, a low temperature being aggravated by piercing northwest gales. On the island of Niphon, Dr. Pettenkofer, of Munich, would have no difficulty in proving that house walls are permeable to atmospheric currents, the interspaces of the beams are filled with a mere screen of lattice work, and the air currents can be felt as plainly as in an Italian pavilion.

The spread of smallpox has been checked only by the isolation of patients. Every larger town has a pest house, located often on one of the numerous coast islands, and there are professional

*Continued from page 405.

nurses who attribute their survival to the practice of penance, and enjoy the privileges of Turkish hospital dervishes. They beg by proxy, and their appeals to the favorites of Fortune are rarely refused.

"Here, brother, pay Heaven a trifle to insure the continuance of your success," says the pious solicitor, if the visitor of a gambling house has raked in a big stake, and even the manager of the den will now and then hand over a good-sized coin—"just for luck," as our sportmen would say.

Health bureaus have been organized on European models, and vaccination has been attempted, here and there; but the Leicester plan of prevention has been anticipated by the system of public baths—free to all comers, though men of rank have the option of paying a few coppers for the monopoly of a curtain room. Ninety-nine of a hundred natives prefer the hall corresponding to the main basin of a Roman *thermæ*, and, in the presence of a miscellaneous multitude, proceed to disrobe with an unconcern incomprehensible to Saxon spectators and puzzling even the less prejudiced representatives of South European civilization. Bathing suits are considered superfluous, yet the warm water halls are patronized by the entire native population of more than one prosperous city.

"Including women?" Mrs. Grundy would ask, with a gasp. Yes. Including women of all classes. The omnipotence of custom could hardly be more strikingly illustrated, for some of these same nymphs of the public bath are so prudish that they could not be persuaded to appear in public without first shading their eyebrows and blackening their teeth.

"Benedicts who have traveled abroad," says Captain Lacelle, "laugh at such precautions, but their better halves refuse to brave public prejudice, and, in default of a razor, would be apt to pluck out their eyebrows with their own hands, the theory being, that the cultivation of artificial ugliness is the surest way to prevent jealousy and scandal."

As the custom has for centuries been almost universal, it must have reacted on the hereditary type, as well as the standard, of comeliness, and may help to explain why, in Japan, health and beauty do not go hand in hand to anything like the Circassian degree. The *cæteris paribus* might seem to be imperfect, in that instance, but the fact is that both Japs and Caucasus dwellers are North Mongols. Blumenbach's synonym of the Aryan race is a misnomer.

Married women were formerly banished from public festivals, and often from public promenades; but the redeeming public bath, too, has exerted its influence for a long series of centuries. It was one of the few concessions hierarchic despotism vouchsafed to hygiene, and, in that sense, might be called a sanitary equivalent of the periodic fasts that helped to expurgate our mediæval ancestors. The plan of renewing the water supply by the constant operation of large tank pipes, prevents contagion, and the halls are aired by natural ventilation; but Father Kneipp is ahead, for many of the Japanese city baths are over-warmed, and thus miss a part of their sanitary effect. The whole archipelago owes its existence to volcanic agencies, and superheated springs are as abundant as on the island of Java, where wreaths of steam, resembling weather mists, may be seen arising from the depths of countless mountain ravines.

The latitude of the populous south island might seem a little too low for purposes of invigoration, but the lack of nerve-bracing frosts is compensated by the frequency of meteorological sensations that tend to obviate the risk of effeminacy. Twice a year, in March and about the middle of November, the coast is swept by storms "raging, for days together, with a fury as if heaven and earth tried to return to their original chaos," as an eyewitness describes them; and earthquake shocks are apt to become emphatic—so much so, indeed, as to explain the above-mentioned architectural peculiarities of dwelling houses. People of moderate means do not care to reconstruct their cottages from a pile of brickbats, every now and then, and built them on the model of a cradle, light, but well-jointed enough to stand a good deal of rocking. They may creak in a storm or an earth-wave, but will not crack open; some of them might be bodily upset without going to pieces.

Japan profits by the natural drainage facilities of all mountain lands, and malarial disorders are rare, but a good many other germ diseases are disseminated by the unsanitary condition of pilgrim camps. Buddhism still lingers in the rural districts and every one of the larger islands has a dozen miraculous shrines that attract worshippers, regardless of lodging accommodation. The pious world despisers huddle together in sheds and tents, sharing their creature comforts, but also such items of portable property as vermin and fever microbes.

In sweltering midsummer a first-class revivalist can hold these assemblies together for a couple of weeks, till the whole camp is in a ferment of mingled piety and pyrexia, and converts have to

read their *ta-sians*, or motto amulets, under difficulties: "Only the renunciation of worldly vanities leads to true peace" (shaking in a fever fit), "self-denial is rewarded by equanimity" (feeling hot and cold, turns about); but the attempt to disinfect such camps generally leads to a shriek-and-cackle convulsion of the whole conventicle.

The educated classes despise these howlers as thoroughly as the Marquis d'Argens despised the "mental cagots" of his native land, but hold their peace, and intimate their private tenets only by an ostentatious patronage of secular pastimes. Every village has its champion wrestler, who trains indefatigably for the city arenas, and day-dreams of the time when his record shall entitle him to contest the honors of the national prize-ring. Pugilism, too, flourishes, together with acrobatics and jugglery proper, in which the Japs recognize only Hindoo superiors. Their traveling specialists do things that would have led to their impeachment for witchcraft, a few hundred years ago, and really puts the power of practice in a novel light, as when an old man puts an egg on a long, slender stick, lets it roll down to near the further end, then raises that end and lets the swaying elliptoid roll back into his hands.

Japanese boxing matches are said to be almost as ruthless as those of the Grecian cestus bruisers; but our trainers might adopt a hint from the Yesso athletes, who practice walking about with steadily-increasing burdens. Beginning with a leather bag half full of cobble stones, they add a stone or two every week, till they can rival the feat of Milo, and claim that the benefit of the exercise is by no means limited to the improvement of wrestling capacities. A thousand-pound carrier, they say, will not only handle a burly antagonist as a boy would handle a doll, but will get able to transact the athletic affairs of every-day life with never before imagined ease, will shoulder a log like a musket, and stride along unburdened, as if walking on springs, laughing at upgrades and distances.

Physical culture, in the Turner Hall sense of the word, has not made much progress in Japan; public schools stick to a limited curriculum and close rather early in the day, but the drill methods of the regular army are remarkably comprehensive. Recruits are trained in all sorts of athletic accomplishments, but also in what the Germans call *abhaertung*—climatic hardiness, and a few months ago a detachment of infantry perished on the island of Sagan Siri, north of Yesso, where they had been sent to practice manœuvring in snow storms. They had stood all tests, but strayed too far inland,

and had got short of provisions, just when a snow cloud burst had cut off their retreat.

Japanese recruiting officers go an inch below the minimum of the British army; but the eastern hemisphere furnishes no better military material: enthusiasm combined with sang-froid, and frugality with astonishing staying powers. On a diet of rice, dried fish and a few scraps of dried fruit, Japanese regulars will march at a rate of forty miles a day, reach camp only to let their arms take their turn at drudgery; perhaps not get a wink of sleep before midnight, yet rush into ranks again fully armed, at a two-minutes' notice.

They hurried ahead of their commissary supplies in the Chinese campaign, but beat the South Mongols more easily than any Caucasians ever beat men of their own race—as easily almost as the cuirassiers of Hernan Cortez routed the naked defenders of the Aztec empire.

A latent protestantism must have sustained the manhood of the race through the long era of Buddhist supremacy. The daimios, or warlike nobles, retreated to their mountain castles, like Rhineland robber knights, dividing their time between hunting and tourneys, and laughing at the doctrine of renunciation, while the working classes fed the embers of secularism with cock-fights and aquatic sports.

Better pastimes had been interdicted, and, as usual in such cases, repressed instincts exploded in vice; barred-out foot racers sneaked into brothels or drowned their ennui in *saki*—a sort of rice-whiskey that is still too popular for the welfare of the working classes.

The social evil having proved ineradicable, legislators adopted a curious compromise plan: They prohibited polygamy, but not only legalized, but deliberately encouraged, concubinage. In other words, they prevented a rake from squandering his property among a swarm of more or less doubtful descendants; the children of his first wife only could inherit his name and the bulk of his fortune, but, if he insisted on a collection of matrimonial supernumaries, the law advised him to lodge them in his own house and lock his doors after dark.

Still stranger was the custom of legalized suicide. "Can you arrange for a funeral of six palanquins and two family coaches, by this day week?" a respectable old merchant would ask an undertaker; "we'll furnish the flounces, and you could let me have your bill for the balance."

"Certainly, sir. Near relative?"

"Rather. It's myself. Going to hang myself next Monday morning, just in time to box me up before noon. Could you send your wagon about 9 A. M.?"

"Certainly, sir, any time that will suit you—looks like rain again, this afternoon, doesn't it?"—reaching for a pencil to figure up costs and profits.

Hari-Kari was only a special form of that custom, an affront to the feelings of the survivors, and an implied protest against some violation of personal rights.

"What a shame! The lawyers drove that gentleman to rip himself wide open," the neighbors would say.

But permission for a necktie matinee could be legally procured at any time. According to the litterateur Athenæus, a similar custom prevailed during the second century of the Roman empire; a life-weary citizen could apply to a magistrate who would investigate the extent of his grievances, and, in irremediable cases, grant him a formal *privilegium abeundi*—only pledging him to a previous settlement of his family affairs.

In mediæval Europe a voluntary trip across the Stygian ferry was treated as a felony, yet the barbarous by-laws failed to prevent epidemics of suicide, like that of Caserta, near Naples, where a horde of superstition-crazed men and women rushed to the coast, *en masse,* to fling themselves over a precipice of the sea cliffs.

Perhaps the custom of going bareheaded helped to keep the brains of the Japs cool, as their loose-fitting robes certainly mitigate the martyrdom of their dog-day season. Fashion, favored by expositions, has tried to introduce Parisian patterns in some of the larger cities, but the middle classes will not go beyond the midway plaisance of a sailor suit, and workingmen stick to the tunics and dalmaticas of their forefathers.

The great Japanese seaport towns cannot yet, in all respects, rival the culture of our leading cities, while, in special directions of development, they have clearly surpassed it. Sewer systems, for instance, are still somewhat defective, all but the principal streets being dependent upon surface drainage. As an offset, there are public water-closets in easy reach of every block; pig-pens and shrieking roosters are not tolerated within the limits of the residence quarters, and impecunious wayfarers are lodged in decent "charity barracks," with washrooms and clean beds, instead of being locked up like criminals.

Buddhism has provincial strongholds, where some rural communities are so sunk in bigotry and besottedness that sanitary re-

formers have given them up for lost; but in the cities, municipal hygiene is rapidly progressing, so much so, indeed, that our imitators will soon become our exemplars.

(*To be continued.*)

THE UTILITARIAN PRINCIPLES OF TAXATION AND THEIR RELATION TO ALTRUISM.*

By R. S. GUERNSEY, of the New York Bar.

CONCLUSION.

The foundation of the manner of considering and treating this subject fully appears in the articles already published. The author feels that the public interest in the matter, so far as relates to a system for local taxation, is not sufficient to warrant or encourage him in his efforts to serve the public in this direction in the continuance of their publication at this time in any attempt to further elucidate the plan.

The writer has endeavored to call attention to the fact and make taxation appear an important factor to be considered in social science founded upon social economy and the conditions of individuals in a community, and capable of being made to greatly contribute to its development or hindrance by its effect upon individuals—to show how it may be extended to evolve beneficial reforms. The subject is one that must always be of more or less interest to thoughtful persons. The utilitarian principle is to recognize the doctrine and force of the primacy of the practical reason over the theoretical or haphazard method of one objective point, regardless of others. In many cases it is not discovered until it is sought for or tried as a deliverer from an unjust burden. This principle, followed in a system, will be a deliverer from an unendurable suspense in fruitless and blind efforts to ascertain what method should be resorted to for relief.

Taxation is desirable so long as it is expended for needed public requirements. It is a necessary function of government. Op-

*Continued from page 212; begun in March number, 1901, page 225, Vol. 46.

pressive taxation is the effect of arrested development of the functions of government for the benefit of the governed, whether it is unappropriately imposed for any motive, or whether it is the result of the economic or social changes in the community, the effect is the same. Practical taxation means appropriate methods adapted to known conditions suitable to obtain definite ends. Taxes when imposed as a penalty or withheld as a subsidy can exert a powerful and effective moral and economic influence in a community.

It is to be hoped that the discussion of this subject, in the lines already laid out in these articles, will be taken up and not now allowed to sleep dormant among those who should feel themselves competent to continue it or to expose such errors as may be developed in the adaptation of those principles in more detail.

It may be that some special subject in the plan will be of more immediate interest to the public than will any suggested system. At present, Federal taxation is administered on a more systematic plan with a definite end in view and a regard for its collateral effects than exists in any State or municipality among us. There are excrescences in it, but they will disappear or wear out, and new ones will arise, but the efforts to have taxation for the public welfare will, after this time, always be the aim of those that shape these tax laws. National taxation now recognizes that the necessities common to all life, such as food, clothing and shelter, should be considered, and that necessary manufactures and productions and land should be free from its burdens, and that moneyed capital and excise and license privileges and luxuries should yield the necessary revenue for support of government, and that home productions should be protected and encouraged by a tax on some foreign importations that would injure it in competition in price and the employment of labor, as well as diversion of capital from other investments, and its accumulations to control prices.

If the effect of State and municipal local taxes (which affect homes) were studied and observed with the care and scrutiny and public discussions and interest that now attends National taxation and economic questions, all local governments would be improved in places where it is now greatly needed, and relief would be given where taxes are the most burdensome and now a hindrance to State and municipal growth, prosperity and happiness.

R. S. GUERNSEY.

New York, May 10, 1902.

THE BEST LITERATURE ON MASSAGE.

By E. C. ANGELL, M.D.

At the time my paper appeared in THE SANITARIAN, entitled "Massage, and Its Adjuncts,"* it was my intention to have sooner followed it with this. Other work, however, has occupied so much of my attention that delay has been unavoidable. As far as I have been able to ascertain, the first book published in this country on the promotion of health by exercise made its appearance in New York City in 1830, at the corner of Broad and Wall streets. It was entitled "A New System of Curing Dyspepsia." It was written and published by Oliver Halsted.

Like Thomas Carlyle, Halsted seemed to have discovered that he possessed a "diabolical stomach." He also discovered that he derived no inconsiderable benefit from riding on horseback and jolting in the stage coach. At that time these were the chief modes of land conveyance. Necessity was then, as now, the mother of invention, and this caused Halsted to invent a means of jolting invalids into health. He was a close observer, and no doubt a man of no inconsiderable genius. He devotes considerable space to the symptoms of dyspepsia, and quotes Addison and Shakespeare to show that they must have been sufferers from this malady. His patients were submitted to a succession of jolts administered by hand, with some rubbing, or massage. At that time, however, the term massage seems to have been unknown. It is not in the book. Nor at that time is it supposed that much was known of that important nerve center, the solar plexus. Even in rather recent times the average physician and the general public were not over familiar with the bearings of this important physiological entity. This disregard first became evident when the lanky blacksmith, Fitzsimmons, made a punching bag of the arrogant and much-astonished Corbett, and knocked him out with one blow. But this was more of rather a chance hit than intelligent direction. Halsted, even at the early period at which he wrote, seems to have discovered its exact whereabouts. He calls it the "pit of the stomach" and declares that the greater the sensibility at this point the greater the chance of recovery. It must have been some time after the publication of this book that Halsted invented the jolting chair.

*Vol. 36, 1896.

It was simply an arm chair, with a seat hung on pivots, which permitted it to rise and fall. When the patient was seated, a lever was grasped by each hand, and the jolting began. The benefits are supposed to have been in proportion to the industry, intelligence and vigor of the patient. It is not many years since quite a quantity of these chairs were offered for sale in West Twenty-third street, Manhattan. The history of this chair is the more interesting from the fact that it seems to have been, in this country, the pioneer in machine massage.

The first American to enter the field of machine massage seems to have been the late Dr. Charles Fayette Taylor. To use his own language, he writes as follows: "I was so impressed with the importance of this subject that as soon as I had graduated in medicine, in 1856, I went to London to study in this field. On my return, joined my brother, Dr. Geo. H. Taylor." Each wrote a book upon general and local Swedish movements. Both were copyrighted in 1860. One was published in New York and the other in Philadelphia. Both have been long out of print. Dr. Charles F. Taylor became largely interested in the treatment of angular and lateral curvatures of the spine. In this work he accomplished results that hitherto had been supposed impossible. His success in orthopedic work led to the establishment of an orthopedic hospital. The late Dr. Geo. H. Taylor's book on massage was published in 1884, and aside from errors in relation to hot air and the eliminating functions of the skin, is one of the best books of its time upon this subject.

The same year his book on Swedish movements was reproduced with some additions upon massage, without the heresies to which reference has been made, making it a most useful book for all who would perfect themselves in massage and the Swedish system of active and passive exercises.

Dr. Taylor is also the author of a very interesting and instructive book on pelvic therapeutics. He has also written a book on diseases of women, that cannot be too highly commended. These brothers were largely endowed with inventive genius. Much of the machinery originated and perfected by them is now employed by Dr. Patchen at the Zander Institute.

The next noteworthy book upon this subject came from the Hub, entitled "A Treatise on Massage," written by Dr. Douglas Graham; published in New York in 1884. A later and enlarged edition, published also in New York, appeared in 1890. Both are said to be out of print.

The next book in the order of time and excellence in quality is a translation from the German of Dr. Schreiber, by Dr. Walter Mendleson, of New York, published in Philadelphia. A new edition has been published in German, but as yet has not been translated, a fact much to be regretted. It gives the best early history of massage I have seen. This was followed, in 1892, by "The Hand-book of Massage," by Dr. Kleen, of Carlsbad, translated from the Swedish by Dr. Hartwell, of Boston; published in Philadelphia by Blakiston, Son & Co. This book is highly commended by Dr. Weir Mitchell, who is well known to have made extensive use of massage in the treatment of abnormal conditions, especially of the nervous system. In this field he ranks massage as among the most efficient remedies.

The year 1895 added two rather important books to the literature of massage. One emanated from the other side of the Atlantic, and is entitled "The Practice of Massage"; published by Macmillan & Co., London and New York. The author is A. Simon Earles, president of the Royal Medical and Chirurgical Society of London.

It is not often that a physician so distinguished will give massage to his patients. It is, nevertheless, all the better for him and all the better for them than for those who have to depend upon the average massage operator. In many of the cases to which he refers he gives the benefit of his experience and knowledge of dietetics. It will be widely conceded that in the treatment of abnormal conditions proper food and regimen cannot profitably be ignored. From the number of cases he cites of dilatation of the stomach we are compelled to the conclusion that "unbounded stomachs" are as common now in London as they were in the time of Shakespeare and our friend Falstaff and the capacious cardinal.

The other book is entitled "The Art of Massage." The author, Dr. J. H. Kellogg, a luminous and voluminous writer, who is physician-in-chief of the well-known sanitarium at Battle Creek. The book is felicitously written, well printed and well illustrated, and like all the books to which I have called attention, should be owned and studied by every student who seeks to acquire an efficient and practical knowledge of an art which, in antiquity and in many recent instances, surpasses in its benefits all other recuperative resources.

TRAINING IS EVERYTHING.—The peach was once a bitter almond; cauliflower is nothing but cabbage with a college education.

PHYSICAL AGENTS IN THE TREATMENT OF DISEASE.

There was a time when the treatment of disease by other methods than the administration of medicine was almost exclusively in the hands of quacks. Nowadays, however, the man who objects to drugs need not go outside the ranks of legitimate practitioners to get other forms of treatment, and he who is willing to leave no stone unturned to bring about a cure can supplement his medicines with a whole battery of effective therapeutic agents that were almost unknown, or at least unused, a few years ago. M. Alfred de Vaulabelle writes on this subject in "Cosmos" (Paris, June 29.). Instead of resorting almost exclusively to drugs, physicians, he says, are beginning to utilize energy in its multiple forms. We know that air, when pure, performs, through the oxygen that it contains, the functions of nutrition; that it possesses special properties according to its composition; that dry air, moist air, cold air, hot air, that which prevails on the sea or the coast, the atmosphere of the plains and that of the forests, are factors which we must take account, and whose effects on the organism are more appreciable than is generally believed. Like air, light has a very great influence on our organs. It is one of the most active stimulants of animal and vegetable energy, that which contributes especially to the development of hemoglobin and chlorophyll. A special method of treatment called heliotherapy, we are told by the writer, has now been adopted for the benefit of the nervous system. Near Trieste, in the mountains of Carniola, at an altitude of 2,500 feet, neurasthenics are made to take actual "sun baths," which cure them in a short time. Dr. Finsen, of Copenhagen, inventor of "phototherapy," has cured in a few months very refractory diseases of the skin. In his phototherapic institute at Lysyria, he has cured 300 out of 400 cases of lupus, that frightful germ disease that so disfigures the countenance, and he has successfully treated various cancerous maladies and even tuberculosis. He employs not only sunlight, but also the electric arc. M. de Vaulabelle continues:

"The purifying action of the sun's rays is such that, according to Marshall, the spores of anthrax, one of the most hardy bacilli known, rapidly become incapable of germinating in sunlight.

Bacteria, even when they are not destroyed by light, are so affected that the ferments or toxins that they secrete are profoundly modified in their specific virulence.

"We shall not dwell long on the good effects of 'thermotherapy,' 'hydrotherapy' and 'electrotherapy.'

"Everyone knows the important part played by heat in medicine and the favorable results obtained by subjecting the extremities of a sick person to high temperatures. The oven of M. Thallerman enables us to raise the temperature in dry air to 110 degrees and even to 130 degrees (230 degrees and 266 degrees Fahrenheit) without occasioning the insupportable pain caused by vapor baths. In contrast to thermotherapy we have frigotherapy, whose applications become daily more numerous. M. Raoul Pictet lowers the exterior temperature of the patient to — 110 degrees (— 166 degrees Fahrenheit) without causing any other sensation than an agreeable freshness. Often the patient rises from the treatment with an appetite that no medicine could have given him, and, what is better still, cured of the nervous trouble or the indigestion from which he has perhaps suffered for a long time. Finally, sufferers from tuberculosis regain appetite that has long failed them, when frequent applications of solid carbonic acid are made to the stomach.

"Thanks to hydrotherapy, the practice of which dates only from 1827 and is due to a peasant of Groefenberg, in Silesia, a very large number of invalids have been relieved. It is to Priessnitz that we owe the first establishment for undertaking the treatment of patients with cold water—a method first badly managed, but since modified by able physicians. It now renders signal service in almost all chronic affections except those of the heart and lungs.

"Electrotherapy also does good daily. Its application dates from 1740, when Jalabert first advised static electricity for the treatment of certain maladies. But it is only since the investigations of Manduyt, Duboneix, Poma, Sarlandière, Prof. Jules Cloquet, Dr. Duchesne, J. Guitard and A. Becquerel, that dynamic electricity has been used successfully in treating neuralgic affections and particularly sciatica, muscular rheumatism, hyperesthesia, anesthesia, the paralysis of sense-organs, etc. By means of the high-frequency currents obtained with D'Arsonval's apparatus we are now able to cure nervous maladies and diseases of exhaustion. Placed in the center of a large cylinder formed by a spirally wound wire through which the current passes, the patient is subjected, without actual contact with the conductor, and with-

out feeling the least discomfort, to treatment whose good effects he feels at once.

"Finally, by mechanotherapy, several institutions for which exist in Paris and abroad, we are enabled to restore vitality to the muscles by giving them appropriate movements; and by vibrotherapy we can cure some cases of neuralgia by material vibration."—"The Literary Digest."

A STUDY OF HEALTH REPORTS.*

By GEORGE CLARY, M. D., of New Britain, Conn.

In this, the opening year of the twentieth century, there have been set before us on various occasions the great advances made in the practice of medicine and surgery in the century which is past. There is another department of our work to which the closing of the old century and the opening of the new invite our attention; namely, preventive medicine or public hygiene. The increasing interest and importance which attach to this branch of the profession are attested by the large sums which our cities and boroughs are finding it wise to expend to conserve the health and economic interests of the people, in providing pure and wholesome waters, in the purification of streams, in devising and executing new methods for the disposal of sewage, in providing public parks as breathing places for the multitudes who are confined in offices and stores and shops, in the building of hospitals for the isolation and treatment of all sorts of contagious and infectious diseases and in the inspection and improvement of the milk and other food supplies. The history of recent sanitation in Connecticut, with many elaborate and valuable articles on a great variety of subjects pertaining to public health, is contained in twenty-three volumes of annual reports of the State Board of Health. My only thought and purpose with regard to them here is to see if we can learn from them, as far as figures will inform us, and present an epitome of just what, how much and how little, has been accomplished toward preventing or curtailing that class of diseases which we are accustomed to call preventable, since the present system of reporting has been in operation.

First, we will consider that very domestic and innocent disease, measles, which some mothers and some physicians think it well

*Abstract of paper read at the semi-annual of the Hartford County Medical Society, Connecticut, Oct. 9, 1901.

for children to have early and "be done with." The aggregate number of deaths from measles in the State for the decade ending 1890 is reported at 590; the greatest number in one year, 1885, was 154, of which sixty-seven were in Hartford, New Haven and Bridgeport. The aggregate number for the decade ending 1900 was 744. The population of the State at the middle period of the first decade, 1885, was estimated at 683,577. At the middle period of the second decade, 1895, it was 816,717. In 1900 the Bridgeport health officer reported 587 cases of measles and says that the disease was more prevalent than the figures indicated. There were twenty-one deaths in Bridgeport attributed to them as the primary or contributing cause. Waterbury reports 130 cases for 1900, and that there were many more cases in a mild form which were not reported, and that parents who fail to report measles are guilty of criminal negligence. Hartford, New Haven, Meriden, New Britain and Norwich make no mention of measles in their reports for 1900.

There were 836 deaths from whooping cough during the decade ending 1890, and 1,153 for the decade ending 1900. So far as these two preventive diseases are concerned, no progress has been made in limiting them. Except in the country towns and a few of the cities the figures show no gain, but a loss. The number of deaths from scarlet fever for the decade ending 1890 was 1,792; from 1890 to 1900, 1,081. The number proportionate to population would be 2,140, actual number (1,081), less by one-half than the proportional number and less by 711 than that of the previous decade.

The number of deaths from diphtheria for the decade ending 1890 was reported at 3,836 and for the decade ending 1900 at 3,023. The mortality from membranous croup from 1880 to 1890 was reported as 1,644, from 1890 to 1900 as 1,300, showing an actual decrease of 344. The whole number of deaths from typhoid fever for the decade ending 1890 was 2,704, and 2,439 for the decade ending 1900. Applying the ratio of population, we should have 3,230, instead of 2,439.

The beneficent results of sanitary enactments and persistent work on the part of the small army of health officers in the counties, cities and towns are most marked in these three diseases, in the order named, viz., typhoid fever, scarlet fever, diphtheria, which are the ones most destructive to life and in regard to which the law of the State has been most generally and specifically observed and executed.

There have been no deaths reported from smallpox since 1895, one death that year, and but three in 1894, twelve in 1890 and thirty-four in the last ten years. The mortality from cerebro-spinal fever, 1880 to 1890, was reported as 483; from 1890 to 1900 as 586; the number proportionate to population should be 562, a little less than the actual number. Influenza has been recognized as an epidemic of much importance. For six years beginning with 1885 only 213 deaths were attributed to it, 185 of which occurred in 1890; from 1890 to 1900, 3,085 were reported from this disease, the greatest number, 660, in 1899. Dr. Clary thought that some of the deaths might have been more properly reported as due to pneumonia.

The number of deaths in the State from phthisis in the decade ending 1890 was 14,536, and the number for the decade ending 1900 was 13,828, a decrease of over 700 without regard to increase of population. The plan now maturing for the separate hospital treatment of many of these cases, thus diminishing the amount of infection in homes, promises a more rapid decrease.

Malarial diseases are responsible for 1,056 deaths in the decade ending 1890, and 1,138 for the decade ending in 1900, an actual increase, but a decrease in proportion to population of 123.

Dr. Clary said the medical fraternity should be at the front in all sanitary matters; they are debtors to their patrons and to the community in these things because they are supposed to become acquainted more than others with the causes of diseases.

THE DISINFECTION OF DWELLINGS.

The method proposed by Dr. Rapp ("Apother Zeitung," November, 1901; "American Druggist," Jan., 1902), the author, is as follows: The articles necessary for the disinfection are about 2 kilogrammes of good, unslaked lime (Aetzkalk) for a room of about 50 cubic meters, a wooden tub of about 12 to 15 liters capacity, a linen sheet, such as a bed sheet, of rather dense texture, of such size that it will cover a triangular or square frame, and that the ends will overhang about 10 centimeters. The room should be, if possible, heated before the disinfection, and flat dishes with water should be placed on the stove or in the openings of the heat registers. For rooms that cannot be heated the amount of formaldehyde must be larger than ordinarily. The lime should then be placed in an oven, surrounded by pieces of wood

and coal, and brought to a red glow. Water should be heated to fill the tub. Plants and animals should be removed from the room, but all infected articles should be left in it. All access of outside air should then be prevented by stopping up the crevices in doors, windows, etc. A second tub is used to moisten the patient's clothing in a disinfectant solution, for example, milk of lime or lysol solution. The furniture is moved away from the walls, the wardrobes, etc., opened, and the room made ready for the disinfection. In the middle of the room a piece of tin is laid on the floor, and upon it the tub, over which the frame with the linen cloth is hung upon a rope stretched across the room at a height of about eight or nine feet. The cloth is moistened in hot water and hung immediately upon the four nails of the frame, and the four corners of the frame are adjusted so that it hangs over the tub, with the ends of the cloth hanging over the edges, closely surrounding the tub. These ends are now pinned to the sides of the tub, leaving an opening on one side. A board is placed on the tub, upon which the formaldehyde is generated. The glowing pieces of lime are now brought into the tub on a tin tray and sprinkled with water in a thin, steady stream. When fumes no longer rise, the tub is filled with boiling water. The formaldehyde is generated with the carbolic-formaldehyde briquettes of Krell-Elb, in Dresden, by heating the lower end of the brick by means of a spirit lamp. Two of these bricks, representing 100 gm. of paraformaldehyde, are sufficient for a room of 50 cubic meters. The clothes worn during the preparatory work are now taken off, hung in the room and the door closed tightly. After seven hours a dish with ammonia is to be placed in the room through the open door, a piece of glowing lime or a red-hot stone is placed in the ammonia, and the door closed. After half an hour the door may be opened and the room ventilated.

BARBER SHOP AND SHAVING SOAP IN THE NETHERLANDS.*

BARBER SHOPS.

The average Hollander is shaved from two to six times a week by a barber, either at the barber shop, or shaving parlor, or at his private residence.

*This report was prepared in answer to inquiry made by a Connecticut manufacturer, to whom advance sheets have been mailed.—U. S. Consul, Amsterdam.

The barber shops in the Netherlands, though tolerably well appointed, do not compare with those in America. Our reversible barber chairs are practically unknown, and the round-backed chair, with simple sliding head rest, is still in general use. About the proper application of bay rum and sea foam very little is known, though shampoos are getting to be the fashion. French perfumed hair waters and "Brilliantine" are much used, and the fashionable barber will generally ask a customer, after the latter has washed the soap off his own face, if he wishes "Vinaigre" on his face before the powder, and his hair done up with "Eau Vegetal" and "Brilliantine." Fastidious customers generally keep their own assortment of bottles of hair waters, besides their razors, brushes, combs and soap, in their private drawer in the shop.

I understand that the barber shops have much improved of late years, and I believe that the Dutch barbers, as a class, are alive to the fact that their methods and the appointments of their parlors can still be improved. Of late, the barbers and hair dressers, and also the employees, have formed an association, by which certain rules regulating the tariff for shaving and hair cutting and the working hours and wages have been established. The present average tariff of a first-class barber and hair dresser is 15 Dutch cents (6 American cents) for shaving, 20 Dutch cents (8 American cents) for shaving and hair dressing, and from 25 to 30 Dutch cents (10 to 12 American cents) for hair cutting. Tickets good for ten shaves may be bought for 40 American cents, while one and one-half shaves on such a ticket are charged for shaving and hair dressing. Annual and monthly tickets can also be had. The prices of the annual tickets for shaving, hair dressing and hair cutting range from 15 to 30 florins ($6 to $12), according to the number of times a customer is shaved during the week. As customers holding tickets are supposed to furnish their own shaving materials, besides the necessary bottles of hair waters, the cost of shaving and hair dressing in the fashionable parlor is not as cheap as the foregoing figures would indicate. As a matter of fact, the average fashionable barber makes more by the sale of materials and hair waters than he does by shaving and hair dressing.

WAGES OF BARBERS.

The wages of a barber's assistant range from 6 to 14 florins ($2.40 to $5.60) and those of an assistant understanding hair dressing from 14 to 16 florins ($5.60 to $6.40) a week, besides a

percentage on sales and tips. The barbers belonging to the "Dutch Barbers' and Hair Dressers' Association" keep their shops and parlors open from 8 A. M. to 9 P. M. On Sundays, some of the shops are open from 9 till 12 in the morning, while others are closed all day.

SHAVING SOAP.

The soaps used by the barbers and by the few that shave themselves are principally cream and powder of French manufacture. In the cheaper barber shops, where the workman gets his shave and where a lower tariff prevails (shaving 2 to 2 1-2 American cents and hair cutting from 4 to 6 American cents), cakes of soap of Dutch manufacture are used.

The wholesale price of the French perfumed cream shaving soap is, for twelve porcelain boxes, each containing a little over an ounce of soap, from 6 to 12 florins ($2.40 to $4.80); and for a dozen boxes, each containing a little over half an ounce, from 4 to 6 florins ($1.60 to $2.40). The price of the powder is from $1.20 to $1.80 per dozen boxes. The shaving soap in cakes of Dutch manufacture sells from 9 to 12 American cents per pound.

The retail prices for the porcelain boxes of perfumed shaving cream are: Full boxes, 30 to 60 American cents; half-boxes, 20 to 30 American cents. Shaving soap is sold at 4 American cents per cake. Persons shaving themselves buy their soap in stores or barber shops at retail prices.

The barbers generally buy their soaps either direct from the manufacturers in France or through their agents in Holland and Belgium. Traveling men and agents of the manufacturers regularly call at the principal barber shops to solicit orders and furnish advertising matter.

DUTIES ON SOAP.

The import duties on soaps entering the Netherlands are as follows, per 100 kilograms (220.46 pounds):

	Florins.	
Perfumed and transparent soaps	4 =	$1.60
Other hard soaps	2 =	.80
Other soft soaps	1 =	.40
Creoline soap	2 =	.80
Dry soap, in packages	5 per cent. ad valorem.	

Soap powder, not perfumed, pays the same duty as "other hard soaps."

HOW TO INTRODUCE AMERICAN SOAPS.

The best means of advertising shaving soaps is to furnish the fashionable shaving parlors with attractive advertising signs to adorn the walls and show windows. These, when placed properly, always attract attention. Another good way is to advertise in the "Barbiers en Kapperscourant" ("Barbers' and Hair Dressers' Journal"), the periodical of the Dutch Barbers' Hair Dressers' Association, of which I inclose a copy.*

Generally speaking, American articles are favorably looked upon here, and the excellent qualities of our manufactures are duly appreciated.

No statistics exist as to the quantity of shaving soap used or imported annually; the amount must, however, be considerable, considering that this country is thickly populated.

SOAP AND SUBSTITUTES FOR SOAP IN SYRIA.

While toilet and shaving soaps are imported from abroad, the Syrian soap manufacturing industry is by no means unimportant. I refer particularly to the Nablous, Haifa and Tripoli soap factories. "Mount Carmel soap," manufactured by an American firm at Haifa, is in demand in the United States. Olive oil enters largely into the production of Syrian soap.

American importers will find in Syria an article which is extensively used for washing woolen stuffs, as it does not shrink them, to wit, the soapwort (*Saponaria officinalis*) root, which here takes the place of our wool soap, does the work equally well, and is incomparably cheaper. In my opinion, it would pay to import this root into the United States. Pressed into bales, it would form a product which could be conveniently transported. Letters on this subject may be addressed to H. Sabbag & fils, Beirut, Syria. The root is also successfully used in washing fresh and fast-colored cotton fabrics, as it prevents their fading. The Arabic name for this useful root is "shursh-halawy."

The Arabs of the interior use the desert shrubs called "ushran," of the family of *Salsolaceæ*, by burning them and extracting the

*Transmitted to the firm that requested this report.

soda from the ashes. Indeed, the ash is almost pure soda. A solution of it is powerfully detersive. They also use lye, procured by lixiviating the ashes of wood and charcoal, for washing clothes.

Sesame oil is commonly employed by Arabs for "cleaning" face and body; also for prickly heat, eczema and other diseases of the skin. It is known here as "serej." In a native journal, the process is described as follows:

The oil is diluted with water and applied to the parts suffering from prickly heat, generally at the time of going to bed. It allays the irritation and dries and removes the pimples in two or three applications. This oil is held in high esteem among the Arabs who live in the interior, who are in the habit of anointing their skins with it when they feel at night fatigued and tired from their day's work, as it gives vigor and firmness to the limbs and body, and enables the workmen to get up fresh and strong next morning. Besides, during the winter it has some effect in protecting the body from the piercing cold, as the Bedouins often go about without any coat. The oil is used for such a purpose pure, without water, and is rubbed briskly into the skin. The people universally believe that it conduces to good health. When there is high fever and the body is aching, the skin of the patient, whether he is an adult or a baby, is anointed with sesame (gingelly) oil and the patient gets relief, the skin becoming soft and the temperature reduced. This remedy is resorted to even by patients under the treatment of European doctors here.

The Arabs do not use soap, as it disfigures the body and inflames it in a tropical climate; but they use various other remedies made from the leaves of certain shrubs which are obtainable very cheaply in abundance, are as efficacious as soap for removing grease, oil and dirt, and refresh and cool the skin and render it clean and healthy. Some of these form a lather like soap, but exercise no injurious effect.

G. Bie Ravndal,
Consul.

Beirut, September 26, 1901.

Pearline.—I have made an analysis of Pearline, manufactured by James Pyle (New York), and would say that I have found nothing in its composition in any way injurious, and that its use will be followed by no more unpleasant effect upon the skin than with that of ordinary laundry soaps used for domestic purposes.

E. S. Wayne, Phar. D., Chemist.

THE SANITARY CONDITION OF STREET CARS IN NEW YORK.

By GEORGE A. SOPER, Ph.D., of New York.

Two recent fatal disasters have served to focus a large amount of attention upon the question of public safety on railways in New York City. Referring to the New York Central tunnel collision and the explosion at the Park Avenue tunnel, Judge Cowing, in addressing the February Grand Jury, recently, said:

"There are two cases which I expect will be placed before your body for its action and which have not only cost the loss of human lives but greatly shocked and disturbed the peace of this community. Public safety is an important consideration in a city of this size, and to prove this laws have been enacted for the protection of human life which, if they were enforced with celerity and zeal, should make disasters of this kind well-nigh impossible. There is a stage at which negligence of public safety becomes criminal. It is for you, gentlemen of the Grand Jury, to look into these matters with exceeding care and intelligence. If you find criminal neglect on the part of any person, do not hesitate an instant in bringing him before this bar, no matter who he may be, to be judged and punished."

From Judge Cowing's severe words, which fairly represent public sentiment, it might be inferred that liability to disastrous accident was the pending danger of city railway systems, but such in reality is not the case. Without intending to minimize this form of danger, which is great enough to be calculable and should certainly not be ignored, it must be stated that statistics show that great disasters cause a very small proportion of the total loss of human life on railroads.

The importance of railway dangers seems to be inversely proportional to the notice they receive. We hear a great deal about the loss of twenty lives in a smash-up which occurs on an average once in a decade, but we do not notice the loss of the three hundred lives which are snuffed out one by one by the trolleys and other railroads in New York City every year.

And there is another danger which is even less apt to be taken into account by the public. This is the danger of injury to health through the insanitary condition of our street cars. The importance of the subject is not to be denied. A vast amount of suffer-

ing and pecuniary loss is caused by preventable sickness in New York, and evidence is not wanting to show that the street cars are responsible for their full share in its causation.

Sanitary Condition of Street Cars.—Theoretically, the trolley car is a sanitary improvement over the public conveyance of a former day, but practically, as it is seen in New York, it is an invention of doubtful hygienic value. If we name in its favor greater size, better heating and lighting facilities and higher speed, we must also take into account the fact that it is not well adapted to carrying the great number of people who ride upon it. Under present conditions, greater size does not insure greater convenience; in the rush hours of night and morning it means greater discomfort. Cars with a seating capacity of from twenty to thirty people often carry from sixty to ninety passengers. How great overcrowding becomes is illustrated by the nightly spectacle of the throngs who seek transportation to their homes across the Brooklyn Bridge. At this point it is not uncommon for people seeking to board cars to be trampled upon; men and women have been killed here in their efforts to find a place upon the trolley cars.

The sanitary evils of overcrowding are not speculative. From the time of Sedgwick and Farr to the present day there has been a great stream of statistical and analytical evidence to prove that persons who breathe poor air and occupy crowded quarters furnish high death-rates.

Physiological Effects of Poor Ventilation.—The physiological effects of poor ventilation are well known. Air vitiated by the lungs is low in oxygen, high in carbonic acid and high in organic matter. Want of a sufficiency of oxygen, combined with the presence of products of respiration in the air, causes a reduction of heart action, increase in the rate of respiration, tendency toward headache, loss of appetite, reduction of vitality, nervous exhaustion, and, in severe cases or in delicate organizations, nausea may be an immediate result of breathing foul air. Many who have traveled in overcrowded street cars are familiar with some of these effects and are aware of their injurious nature.

The power of resisting disease is lessened.

Poor ventilation causes the naturally vigorous condition of the tissues of the air-passages of the nose and throat, which normally have the power of rejecting or destroying dangerous bacteria, to become impaired and the entrance of the organisms which are the cause of bronchial and pulmonary disease is greatly favored.

The part played by human beings in gathering and giving off bacteria in the cars should not be forgotten. According to Thomson and Hewlitt*, the number of bacteria inhaled by a human being under ordinary circumstances may reach many thousands during one hour's tranquil breathing. The air expelled is sterile, so long as there is no conversation; but Koeniger,† a pupil of C. Fraenkel, has shown that bacteria are freely given off in particles of moisture by persons in the act of speaking, whispering, sneezing or coughing.

Another effect of foul air is to offend the esthetic sense, which is a consideration by no means to be neglected in a sanitary question of this nature. The musty odor of close places is partly accounted for by Billings, Mitchell, and Bergey,‡ who consider it to be due to volatile, fatty acids, associated with bodily excretions and the products of decomposition contained in the expired air of persons having decayed teeth, foul mouths or certain disorders of the digestive apparatus.

Proof of Insufficiency of Ventilation.—To those who have ridden in the street cars of New York during rush hours in winter, the fact that they are insufficiently ventilated needs no demonstration. The public, as though familiar with the dictum of De Chaumont§ that the air of enclosed spaces should not be unpleasant to the sense of smell of persons coming from outside air, appreciates that the musty odor noticeable in poorly ventilated street cars indicates that there are waste matters in the atmosphere which should have been promptly gotten rid of.

Now, an average adult takes into his lungs 396 cubic inches of air per minute and gives off the same amount of vitiated air, which must be greatly diluted before it is suitable for further respiration. The measure of this necessary dilution is very easily understood, for we know that, while fresh air contains about three parts of carbonic acid and air which has passed through the lungs 441 parts of carbonic acid per ten thousand volumes, the air of enclosed spaces becomes close when the carbonic acid exceeds about five parts per ten thousand. From these data it is found that something like fifty cubic feet of fresh air should be admitted to each car every minute per person.

It is clear that no such allowance of fresh air is supplied to pas-

*Trans. Royal Med. and Chir. Soc., Vol. XXVIII., 1895.
†Zeit. für Hg. V. 34.
‡J. S. Billings, S. Weir Mitchell and D. H. Bergey, Smithsonian Reports, July, 1895, page 389.
§De Chaumont, Proceedings of the Royal Society of London, Vol. 28.

sengers on any line of closed cars in Greater New York when they are running beyond their seating capacity. Such ventilation as occurs takes place irregularly by the opening and closing of the doors for the entrance and exit of passengers, or through primitive transoms and not by carefully regulated ventilators. The writer has found the air of these cars to contain as much as 26.2 parts of carbonic acid gas, as determined by the Pittenkoffer method. Repeated counts of trolley cars in New York in cold weather have shown that about sixty per cent. had all their transoms closed. The insufficient warming of street cars in winter accounts, in part, for the attempt made to keep them entirely shut up. Want of a sufficiency of warmth is a prevalent source of complaint and a danger to health, especially in the cars of Brooklyn.

Ventilation on the elevated roads is generally inferior to that on the surface lines, because of the greater size of the cars and smaller proportion of time during which the doors are opened and the people are stirring about.

Carbonic acid gas in the cars of the elevated road has been found by the writer to run as high as 31.2 parts.

The use of coal as a motive power, with the consequent gases, moisture and steam, adds considerably to the discomfort of passengers and makes the condition of the enclosed air especially unsatisfactory.

Bacterial Condition of the Air of Cars.—We have remarked how the street cars of New York are at times greatly overcrowded and have noted how overcrowding reduces the natural resistance of the body toward disease. It remains to show that specific sources of disease probably occur to a very considerable extent in the air of these overcrowded public conveyances.

That many species of bacteria exist in the street atmosphere of New York has been frequently demonstrated by analysis, the quantitative work of Firth* and the isolation experiments of Dyar† being fair examples of such proof. The fact that pathogenic germs exist in the street cars has been scientifically proved by Hance.‡

The elevated railroad cars are in some respects more insanitary than the surface cars. Examinations of the cocoa mats used on the floors of the cars of the elevated railroad have shown that fibers one and a half inches long may hold three or four million bacteria.

But there is no need of extending these data. Only straws of

*Studies from Dept. Path. College P. & S., N. Y., Vol. VII.
†Am. Annals N. Y. Academy of Sciences, Vol. VIII., May, 1895.
‡N. Y. Med. Record, Feb. 13, 1897.

such evidence are necessary to show that the floors and air of street cars become polluted with dangerous bacteria.

The origin of many of the disease germs which occur in our street cars can be understood by anybody who has noticed the universal and disgusting habit of spitting. The Board of Health some time ago caused conspicuous notices to be posted, warning the public that spitting in the cars is a misdemeanor punishable with imprisonment and fine, but this order has become a dead letter. The steps and platforms of elevated railroad stations, with their disgusting accumulations of sand, and the cocoa mats of the elevated roads and the gratings on the floors of the surface cars are favorite places for those who indulge in this dangerous habit.

The findings of bacteriology leave no doubt as to the fate of a large part of the expectorated matter. It becomes dry and is pulverized under foot and is finally distributed through the air with dust. How far the spitting habit common in street cars is responsible for the eight thousand deaths from consumption of the lungs which occur in New York every year can safely be left to the reader's imagination.

Tuberculosis is not the only disease which is probably communicated in the street cars. From the facts at present known concerning the etiology of other infectious diseases, it can hardly be doubted that the infective poisons of scarlet fever, measles, influenza, diphtheria and pneumonia, not to say smallpox, are spread from person to person through the impure air and close personal contact which occur in the cars.

Condition in Tunnels and Subways.—New York is soon to see a remarkable development of its railway-passenger traffic underground. It is expected that in two years a rapid transit service twenty-one miles long will be in operation under the streets of the city. The New York Central Railroad, which already operates several miles of subway, is to build extensive additions underground at and near its Forty-second Street Terminal; the Pennsylvania and Long Island Railroads are to connect on Manhattan Island near Thirty-fourth Street by a road built under the city and under the North and East rivers, and other almost equally extensive projects for underground transit have been announced.

None of the plans for these subway roads, so far as made public, indicates that any special arrangements will be made for the permanent avoidance of the sanitary evils to which attention is here invited. In view of this fact, it may not be undesirable to inquire whether these dangers are likely to be especially prominent

in the underground traffic and whether any additional risks are to be looked for in this form of city transportation.

From what is known to the writer at the present time, the greatest dangers to be apprehended on the underground roads are those of overcrowding, want of proper ventilation and bacterial cleanliness.

Concerning the ventilation of cars, what has been said with respect to the surface lines and their needs will apply to the cars which will run in the subways, with this difference: the subway cars will be enclosures within an enclosure and consequently more difficult to ventilate.

In respect to ventilation outside of the cars, it is significant to note that the air of but few of the many tunnels so far built in various parts of the world is satisfactory. The Mont Cenis tunnel, the Hoosac tunnel, the underground roads of Paris, Liverpool, Glasgow and Boston, and the St. Louis and Baltimore tunnels are all imperfectly ventilated, if they are to be judged from a critical hygienic standpoint. The air in some of these tunnels is almost insufferable; men have been fairly suffocated in some of them, and a ride in the best is not infrequently attended by at least uncomfortable consequences.

It appears that there are no satisfactory methods of ventilating tunnels without great expense. Mechanical fans supplying or exhausting air and the use of blow-holes, shafts or openings, through which air-currents caused by the passing trains are supposed to circulate, have been tried and found inadequate to insure that freedom from objectionable waste products which is the end aimed at in ventilation.

Failures in ventilating tunnels are usually due to a fancied necessity of operating them in the most economical manner possible. Practically, the only reliable method of ventilating them requires the use of mechanical fans, and the operation of these involves a continuous and considerable expense. There have been those who have thought that the piston action of moving cars was sufficient to secure a sufficient interchange of air; that foul gases, being warmer than the rest of the atmosphere, would readily escape if vertical shafts were provided to carry them off; that the currents produced by the rapid passage of trains would cause the foul air to rush up and fresh air down, through blow-holes, and that large stations or occasional openings would afford suitable outlets for the escape of undesirable gases. Unfortunately, experience has shown that too much reliance has been placed upon these cheap

and easy methods and that, in the ventilation of large and important tunnels at least, they are not based upon a correct interpretation of physics or sanitation.

Aside from the use of fans, the most beneficial results have followed the opening up of large portions of the tunnel roof to the outside air. But this is not so much solving the problem of tunnel ventilation as it is escaping it. In proportion as a tunnel loses its covering it becomes an open cut.

It is interesting to note the ventilating arrangements of some well-known tunnels.

At Paris an attempt is made to ventilate the underground road of the Chemin de Fer de Secaux by exhausting the impure air with fans at the highest point of the line, fresh air being allowed to enter at the stations and through shafts. Blow-holes are located from 200 to 300 feet apart.

At Liverpool, the tunnel under the Mersey, 1.2 miles long, is provided with a ventilating equipment consisting of a 7-foot ventilating conduit alongside of the tunnel and provided with fans. Openings communicate between the tunnel and conduit at intervals. Foul air is forced out through this conduit and fresh enters at the ends of the tunnel. Analysis has shown that the carbonic acid in the air of the Mersey tunnel varies from 7.4 to 26.4 per 10,000 volumes.

The air in the subway of the Metropolitan Railway of London has long been a source of complaint. A Government commission in 1897 found that the carbonic acid ran as high as 89.4 parts per 10,000. It was recommended that the tunnel be opened as far as practicable by removing portions of its roof.

It is interesting to note that a conclusion similar to that reached by these English investigators was recently arrived at by the Pennsylvania Railroad and the city of Philadelphia in connection with the work of depressing the tracks of the Pennsylvania road in that city. After devising an elaborate system of fans, conduits and stacks to secure a change of air every five minutes, this plan was rejected for a system of large street openings and a natural circulation of air.

Perhaps the conditions presented by the Boston subway resemble more closely those which may be expected on the rapid transit road in New York than could be found elsewhere. Fifty million people use the subway every year. There are about five miles of track. The entrances and large stations afford conditions favorable to the interchange of air. There is a ventilating equip-

ment consisting of fans 7 to 8 feet in diameter, placed at intervals of from 500 to 1,500 feet. The air in the Boston subway was tested by Prof. Carmichael and found to contain from 6.53 to 9.45 parts of carbonic acid per 10,000 volumes of air. In a car with open ventilators and about sixty-five passengers the carbonic acid gas was 24.97 parts per 10,000. On the street at this time the carbonic acid was 4.5 to 5.9. It is true that the motive power used on most underground roads furnishes the chief cause of complaint and that the annoyance caused by the gases, steam, smoke and cinders given off by locomotives could be avoided by the use of electric traction. But have we any assurance that no coal will be used on the underground railroads of New York? We have seen the tolerance of the public for this nuisance in times past. Locomotives burning coal have been running on the elevated roads and in the New York Central tunnel through the heart of the city for many years, and in the plans of the future subways the public has not been given assurance that the use of coal will be prohibited.

Disagreeable and unfavorable to health as the gases and solid matters given off by coal are known to be, the chief sanitary danger of cars under ground is the same as the chief danger of cars on the surface and cars overhead. The bacteria of disease are the objects against which the most incessant warfare should be waged. In so far as the subways, with their openings for stations or ventilation, will be permitted to act as collecting-places for dust and disease germs, transit underground will be dangerous to health.

Conclusion.—The foregoing remarks indicate the nature and extent of what is possibly the greatest danger to which the people of New York are exposed in traveling by street cars. Under present circumstances, thousands of exhausted and fagged men and women seek the trolley and elevated roads every night and there fight for an hour or so for a place to stand while being transported from their business places to their homes. In the morning they repeat the experience. The foul atmosphere and inadequate warmth of the cars in winter predispose them to disease, and the unclean habits of a dangerous minority of the passengers sow bacterial poisons in the air. Insufficient heating and ventilation are prominent dangers also.

Is there any remedy for the sanitary evils of New York street cars? There are several. In the first place, the power of the community to make laws for public safety should be utilized and for this purpose it is needful that the necessity for such ordinances

should be appreciated. Evidently, the call for decency and sanitary safety which has thus far been made by the Board of Health has not been heeded, and it is consequently incumbent upon every person who appreciates the importance of this subject to give it emphasis.

The principal objects toward which, as the writer believes, laws intended to improve the sanitary condition of street cars in New York should be directed are a reduction of overcrowding, the prevention of spitting, and the proper ventilation and warming of the cars. If overcrowding can be prevented, the problems of ventilation and warming can be properly solved, but not otherwise.

The remedies available for overcrowding lie in providing more cars to carry the people and in restricting the number of passengers carried per car. It is not possible to discuss this problem within present restrictive limits, but it may be said that a judicious application of both remedies is the solution to which the writer's study of this problem points.

The rapid transit road, now building, will relieve the congestion to some extent and most of the present lines can be made to handle many more cars than are now employed. If it were made unlawful for the companies to carry more passengers than they could accommodate with sanitary safety, there is little doubt that superior facilities for transporting the public in a decent and convenient manner would be forthcoming.

The prevention of spitting is the subject of greatest consequence in the sanitary improvement of street cars. Until time develops a popular sentiment which will recognize expectoration to be a moral as well as a legal crime, the most practical remedy for the nuisance seems to be to hold the transportation companies accountable for the condition of the cars. That the companies would be able to attend to this matter without undue hardship is evidenced by the fact that various rules for the safety of passengers are already enforced on the street cars of the city; for example, passengers are not allowed to ride on the steps of open cars in the summer and generally not on front platforms at any time.

As regards the sanitary aspects of the contemplated railroad subways not included in the rapid transit system, it would be premature to offer any criticism. The resources available for protecting public health under such conditions are sufficient to make these underground steam railroads inoffensive and sanitary. How far these resources of sanitation will be utilized depends largely upon how serious a view the public takes of its own safety.

TABLE SHOWING CARBONIC ACID IN THE AIR OF SOME TUNNELS AND STREET CARS—RESULTS STATED IN PARTS PER 10,000 VOLUMES:

Mont Cenis Tunnel	107.0
Mersey Tunnel	7.4 —26.4
Severn Tunnel	4.2 —11.4
Liverpool Overhead Electric Railway Tunnel	12.9
South London Electric Railway Tunnel	8.4 —10.8
Metropolitan Railway Tunnel, max	89.4
Boston Subway	6.53— 9.45
Electric Car in Boston Subway	24.97
Steam Car on Elevated Railway, New York	5.8 —31.2
Electric Surface Car, New York	6.1 —26.2

—"Medical News," April 19, 1902.

LEGAL QUACKS AND MEDICAL QUACKS.

The difference in the treatment accorded unprofessional members of the legal profession by the profession as a whole, and the treatment of similar interlopers in the medical profession, or rather the lack of treatment, has been frequently commented upon. A dishonorable or quack lawyer is disbarred, and he can no longer fleece the public under his respectable cloak. But once a physician, always a physician, and the abortionist and quack, known and condemned as he may be, goes his way so long as he is not behind bars. His evil reputation is, indeed, often his best card. Still, the legal profession is not satisfied with the cleansing of its ranks that has been done, which is commendable. The lay press appreciates the deficiencies also, as shown by the following editorial from the "Chicago Record-Herald" of Feb. 20:

"The grievance committee of the Chicago Bar Association has inaugurated what it is hoped will be a serious and aggressive crusade against disreputable and unprofessional lawyers. Through a circular sent to members of the Association it asks the co-operation of attorneys in this work of purging the local bar, and offers to investigate complaints of unprofessional conduct if the allegations pertaining to such misconduct are made under oath, as required by law.

"The number of unworthy lawyers in Chicago has grown so large that reputable members of the bar have become aroused to the necessity of doing something to remove the stigma that unquestionably rests upon the profession by reason of illegal and immoral practices. There appears to be general agreement among judges and leading members of the bar that a considerable portion of the 3,700 lawyers in Chicago either violate the statutes governing the practice of law or are persistently guilty of unprofessional conduct. Notwithstanding this acknowledgment the disbarments are known to be very few.

"With the ethics of the profession the public is not deeply concerned. The lawyer who insults the court by offensive language or brutally browbeats a witness can generally be dealt with by the judge, and, as a rule, he soon invites the contempt of decent practitioners. Even the ignorant lawyer can be tolerated, especially if he have enough honesty to compensate for deficiencies in legal knowledge.

"But the scoundrel and the shyster, who resort to illegal and immoral practices to pervert or defeat justice, who openly violate the statute by fomenting strife that culminates in litigation, should be booted swiftly and unceremoniously out of the profession.

"For the ignorant lawyer who was admitted to the bar in the days when the requirements were not so high, there may be room for reasonable leniency. But for the rascally marplot who makes a business of promoting litigation, who is willing to use the testimony of a hired or perjured witness as a basis for a suit, there should be no mercy. Kick him out!"

If in this arraignment the word "doctor" is substituted for "lawyer" the situation is still correctly described. The results accomplished by the legal quack are so insignificant when compared with those of his medical congener that they seem trivial indeed, and yet how much does the public or the public press concern itself with the latter? Is it that which touches purse strings more than that which assails health, or is it simply that legal quacks use so much less advertising space?—"Journal American Medical Association," March 8, 1902.

First Business Lesson.—"What is the first thing a young business man should learn?" was asked of the successful one.

"That mailing bills is not collecting money," was the prompt reply.—"Indianapolis News."

THE MALNUTRITION OF TUBERCULOSIS.*

By FLOYD M. CRANDALL, M.D., New York.

The discussion before the Section on Pediatrics is upon malnutrition in children, and to me has been assigned the malnutrition of tuberculosis. A discussion of the various other symptoms of that condition would be, therefore, out of place. I may, however, call attention to the fact that tuberculosis is one of the most protean of diseases in its manifestations. In some cases it begins abruptly with clearly defined local symptoms, as in tubercular pneumonia. As far as diagnosis is concerned, the malnutrition is then of minor importance; as far as the welfare of the child is concerned, it is of vital importance. Wasting and anemia are constant accompaniments of active tubercular processes. It is sufficient to say that the anemia accompanying tuberculosis is usually simple in character. That is, it is marked by diminution both of the red corpuscles and the hemoglobin and is not due to disease of the blood making organs. It is secondary, not primary. Occasionally, however, it approaches a chlorotic type, particularly in girls in later childhood.

It will be most profitable in the short time allotted to this subject, to consider those forms of concealed or generalized tuberculosis, so common in young children, in which local disease is found very late and sometimes not at all. These types have received much attention from recent writers. Jacobi refers to the "afebrile condition and chronic emaciation" of some cases. Holt classifies general tuberculosis, first, as those *cases resembling infantile marasmus,* and second, *cases in older children resembling a continued fever.* Comby refers to the tendency of tuberculosis to be generalized in infants and describes five clinical types in early childhood, the first of which he denominates as "apyretic tuberculosis," which runs the course of an ordinary athrepsia or dyspepsia, the symptoms being emaciation, vomiting, and diarrhea.

In watching cases of this character, the question sometimes arises in the mind as to whether there is such a thing as a pretubercular stage, as has been suggested. Children sometimes waste away and die without showing the signs of any organic lesion. They seem to be suffering from simple marasmus, but at the au-

*Read before the Section on Pediatrics, the New York Academy of Medicine, December 12, 1901.

topsy, death is found to have been due to tuberculosis. Holt asserts that he has seen at least a dozen such cases. Here, then, we find tubercular cases pursuing their full course without showing local evidence of tuberculosis. In other cases after the symptoms of marasmus have existed for a greater or less period, the signs of organic disease develop, usually in the lungs. It is in such cases especially that the theory of a pretubercular stage has been evolved. If by this term is meant a specific stage of tuberculosis marked by wasting and anemia, before the formation of tubercles, the theory is not tenable. If, however, a condition of anemia is meant which predisposes to tuberculosis, the term pretubercular anemia may be permissible, but it should be understood that it is no integral part of tuberculosis. It is nothing more than a state of impaired nutrition which renders the patient susceptible to any infectious diseases. The so-called pretubercular stage is probably nothing else than the early stage of tuberculosis which has not been recognized. Even in adults it is not uncommon to find general infection and the disease under full headway when the lesions in the lungs are first detected.

Infancy and childhood are the periods in life in which tuberculosis tends most strongly to hide itself in deep-seated and inaccessible tissues. The deeper lymph nodes are the most common seat of concealed tuberculosis. Here the disease may go on producing its constitutional symptoms without giving any evidence upon which a diagnosis of the true underlying cause may be made. These deep-seated nodes may be seriously affected without involvement of the superficial nodes. On the other hand, enlargement of the superficial nodes, if fever, anemia, and other constitutional symptoms be absent, offers no evidence of the infection of the deeper nodes. But superficial adenitis, accompanied by anemia and fever, not otherwise explained, is very suspicious of tubercular involvement of the deep lymphatic structures.

Is the malnutrition of tuberculosis characteristic? Can the diagnosis of tuberculosis be made from the anemia and malnutrition alone without the discovery of local lesions or of bacilli in the sputa? The anemia is certainly not characteristic. It is that which accompanies many other conditions of lowered vitality. Loss of weight is common but it does not necessarily progress uninterruptedly. There may be even gain of weight temporarily. If watched for some time, however, wasting will invariably be found. Progressive wasting, however, is common in many other conditions. Cachexia rarely occurs early enough or is sufficiently dis-

tinctive to be a symptom of value in making a diagnosis before other more positive symptoms have developed. In my experience, neither the classical scrofulous nor tubercular diathesis has been particularly common among tubercular children.

It is difficult for many practitioners to dissociate in their minds coughs and tuberculosis. And yet cough is utterly lacking in many patients and does not develop until late in others. In many cases of glandular tuberculosis the lesions are so located as not to produce cough. Even after pulmonary invasion, the cough may be so slight for a time as to attract but little attention, and after repeated visits, the physician may fail to hear it. In involvement of the bronchial lymph nodes, the cough may be so paroxysmal as to mislead the physician. In older children suffering from the more chronic forms of consumption, similar to those in adults, the cough occasionally assumes such a paroxysmal character as to simulate pertussis. Fever is also absent in the early stages of many cases of the marasmic type. It may, in fact, never be a prominent symptom, and when it does occur it may be erroneously attributed to indigestion or taking cold. Marked febrile action may not occur until late in the disease, when local signs are also present. The indigestion, loss of appetite, diarrhea, and vomiting, so often seen in these cases, are by no means characteristic.

There is still another type of tuberculosis in children—that which resembles typhoid or continued fever, in which there is often a preliminary stage of malnutrition without diagnostic symptoms. This apyretic stage may continue for several weeks, to be followed by a stage of low, irregular fever, which may run for two or three weeks or longer, before any local symptoms develop. These are usually pulmonary. In this type wasting in the first stage, and wasting and fever in the second stage are symptoms never absent. Cases of this character form some of the most difficult and trying problems, which are presented to the practitioner. Unfortunately even after pulmonary signs have developed, it is not possible to be too dogmatic in one's statements, for a marasmic child may contract a simple bronchopneumonia and die after passing through a very similar series of symptoms. Consolidation in such cases is often so slow to develop that there may be a febrile stage of considerable duration before positive signs can be elicited. Autopsy may show such a case free from tuberculosis, while another running a very similar course may show abundant evidence of it.

I am aware that I am not adding much light to the subject, but rather, perhaps, discouragement. The fault, however, is not mine;

it lies rather with the conditions, for the malnutrition, both of the earlier and later stages of tuberculosis, has little about it by which a diagnosis can be made. Still it must be said that while these symptoms are none of them characteristic, taken together they form a clinical history which should put a practitioner upon his guard and should make him very careful in his progress. The question has been well summarized by Holt in the following words: "Early wasting without adequate cause followed by gradual development of low fever, and finally the appearance of signs of subacute bronchopneumonia, form the most characteristic features of general tuberculosis in early infancy. Yet all these symptoms are occasionally met with in cases in which the autopsy shows none of the lesions of tuberculosis." Anemia and wasting in a young child in which thorough examination reveals no adequate cause should always arouse the suspicion of incipient tuberculosis.

I have thus far referred to infants and young children only, but desire to add a word regarding older children and adolescents, in whom anemia and malnutrition should always receive prompt attention. Tuberculosis rarely develops at this age in the well nourished and vigorous. In families with the tubercular tendency, the children between the ages of fourteen and twenty should receive particular care, and the first appearance of anemia and impaired nutrition should receive prompt treatment. I have come to regard chlorosis as a much more grave condition than many seem to do, though I think I have had my share of brilliant results in its treatment. Many cases improve promptly and continue in good health, while others continue to be more or less anemic and relapse easily. Where there is a family history of tuberculosis, chlorotics show a peculiar susceptibility to tubercular invasion. Rachford, who has made considerable study of this subject, asserts that the menstrual function is established somewhat earlier in girls with a tubercular family history than in those without such a history; that a scant and pale menstrual flow, followed by a leucorrheal discharge is very suspicious of concealed tuberculosis. Certain it is that a chlorotic girl is a candidate for almost any infectious or wasting disease, of which tuberculosis is first and foremost. When to this is added inherited tubercular tendency, her danger is very great.

The thoughts which I have thus briefly presented may be thus summarized:

1. Wasting, anemia, and other evidences of malnutrition are constant accompaniments of tuberculosis in children.

2. These symptoms may occur in infants long before local disease can be detected and occasionally no local signs whatever are manifest before death.

3. In infants, tuberculosis shows a special tendency to be disseminated or to conceal itself in the deep tissues, as the lymph nodes. The disease may then run a course identical with simple marasmus.

4. In some cases a period of anemia and wasting is followed by a stage of irregular fever, after which local lesions appear, usually in the lungs.

5. In other cases tuberculosis in children begins with well-marked local manifestations, particularly pneumonia. In these, evidences of malnutrition appear promptly and are usually progressive.

6. The anemia of tuberculosis, whether it appears before or after the occurrence of other symptoms, is usually a simple anemia and presents nothing characteristic.

7. A diagnosis of tuberculosis cannot be made alone from the character of the anemia or the malnutrition. However, persistent and increasing malnutrition in a child without discoverable cause is always suggestive of tuberculosis.

8. Anemia in adolescents should receive prompt and active attention, for it vastly increases the danger of tubercular invasion, which is particularly common at that period of life.—From "Archives of Pediatrics," January, 1902.

WHY IS NEW BREAD INDIGESTIBLE?

New bread is commonly considered indigestible, and with reason; but, according to an editorial writer in "The Lancet" (London), it is not necessarily so. Hot rolls when masticated properly should not offer any difficulty to the digestive organs. The writer goes on to say:

"A slice of stale bread on being broken with the teeth resolves into more or less hard gritty particles which, unless they were softened by the saliva, would be almost impossible to swallow. The particles would irritate the throat and the gullet. The fact is, therefore, that man is compelled thoroughly to masticate and to impregnate stale bread with saliva before he swallows it. This act, of course, partially digests the bread and thus makes it in a fit state for digestion and absorption farther on in the alimentary tract. This is why stale bread appears to be more digestible than

new bread. New bread, on the contrary, is soft, doughy, or plastic, and there appears to be no necessity to soften it with saliva, hence it escapes the preliminary digestive action of the ptyalin of the saliva. New bread, in other words, is in reality 'bolted,' and 'bolting' accounts for many of the ills arising from dyspepsia. Accordingly, hot rolls should be enjoyed for breakfast without any fear of dyspepsia so long as the bread is good and so long as pains are taken to masticate it thoroughly."

The writer calls attention to the fact that a dog will "bolt" a piece of meat, but, when eating a piece of bread, he will keep it in his mouth some time and will almost labor over it before swallowing it. The dog, we are told, thus teaches a very important physiological lesson. There is very little that the mouth can do in the way of digesting meat, beyond reducing it, by means of the teeth, to a convenient form. But the case is different with bread. The writer continues:

"It is a curious fact that stale bread is not more dry than new bread, for on submitting stale bread for a short time to a high temperature it regains its condition of newness and becomes soft or plastic, and this in spite of the fact that some moisture is of necessity driven off in the operation. It is probable that in new bread there is free water present, while in stale bread the water is still there, but in a condition of true chemical combination, and it is this combination which compels us thoroughly to moisten and to masticate stale bread before we consign it to the gastric centers. Similarly, the indigestibility of the Norfolk dumpling is probably due to the fact that it is of tough, doughy consistency and therefore should receive considerable mastication before it is swallowed. It is a sound physiological plan, therefore, to adopt—as it is said the late Mr. Gladstone adopted—the habit of chewing each morsel a great number of times."

MILK FLOUR IN SWEDEN.

At the November meeting of the Academy of Agriculture, at Stockholm, the news was imparted of a discovery which promises to be of importance to the dairy industry of the Scandinavian countries.

Dr. M. Ekenberg, of Gothenberg, Sweden, described a process of changing milk into a fine flour that afterward, through solution in a sufficient quantity of water, may again be transformed into milk with all its alimentary qualities.

The peculiarity of Dr. Ekenberg's discovery lies in his having found the conditions under which the milk will retain its solubility in water in spite of the transformation into powder. Formerly, when milk was dried, the components became indissoluble.

The transformation of milk into powder requires a special apparatus, which is said to be so simple that it can be placed in any dairy, requiring no technical knowledge to operate.

Dr. Ekenberg would not give a description of the apparatus, as he has applied for letters patent. According to his calculations, the apparatus should not cost more than a common separator.

The milk flour resembles wheat flour, and has the aroma of milk. It can be kept in tin cans, wooden barrels, and even sacks and paper bags. One part of the flour, in weight, gives about ten parts of milk. It is simply concentrated milk, in the form of flour; it contains all the constituent parts of milk, except the water and gases. It does not turn sour or effervesce, and is not susceptible to changes in the weather. Samples have been kept for weeks in a thermostat at blood temperature (37.5° C.), and no changes were noted. Even in damp air, without protection, it does not turn sour or become moldy.

From the milk flour, cream, butter, and cheese may be obtained. It can be used in baking bread, puddings, etc.

The working expenses for the production of milk flour have been calculated at 1 cent per gallon of milk.

Flour of skimmed milk was also exhibited by Dr. Ekenberg before the Academy of Agriculture, and it is particularly for this article that the new process will be of importance, as the product has hitherto been largely wasted.

The flour will be found to be superior to such preparations as "proteid" and "proton," as 10 to 20 per cent. of the albumen of the milk is lost in the production of the latter, and the flour can be produced much more cheaply.

Skimmed milk is said to be the cheapest albuminous aliment known. The process for the production of milk flour is so simple that the article can be profitably sold at 1 krone per kilogram (12 cents per pound), and even less, provided skimmed milk can be obtained at 3 öre per litre (2.9 cents per gallon).

By means of this apparatus, every dairy will be enabled to send all its products to the market in a transportable condition.

According to rumor, Dr. Ekenberg has applied for letters patent on the method itself, the nature of which is a scientific discovery.

Bergen, January 24, 1902. VICTOR E. NELSON, Consul.

MEDICAL EXCERPT.

By T. P. CORBALLY, A.M., M.D.

THE PHYSIOLOGICAL ACTION OF GUACO.

M. le Dr. Butte read, before the Académie de Médicine ("Gazette Hebdomadaire"), April 13, 1902, a note on the physiological and therapeutic action of guaco, the nature of which the author has carefully studied. The plant is found in the mountainous districts of Mexico, and is known as the *Aristolochia Cymbifera.*

The result of his researches is that this plant, among other properties, causes a suppression of the power of sensation in the nerves of relation in living beings, and that this disappearance is due to the paralysis of the centre of the nerves of sensation. These properties, furnished by physiological experiment, have led Dr. Butte to examine their effects on the affections in which the nerve centers are greatly irritated; as in neuralgias, pruritic eczemas, the prurigo of Hebra, senile pruritis, ano-vulvaria, pruritis of the genital organs in man, etc.

The clinical tests have been in entire accord with the physiological conditions described, and patients suffering with the above affections have been rapidly and completely cured on application *intus et extra* of the remedy known as guaco.

FAITS NOUVAUX.—Under this title the "Gazette Hebdomadaire" publishes an account of the Diazo-reaction of Ehrlich in Surgical Affections. M. Hellendall has observed that the diazo-reaction is positive in the urine of subjects suffering from osteomyelitis; it advances regularly with the increase of febrile manifestations; it ceases when suppuration begins and reappears if new centers are formed.

In tuberculosis of the skin and of the ganglions it is not usually found. On the contrary, in tubercular peritonitis, in white swellings, in Pott's disease, in coxalgia, and especially when peri-articular abscess exists the diazo-reaction appears. In osteo-articular tuberculosis the diazo-reaction is intense and of unfavorable augury.

In a general way the diazo-reaction in tuberculosis gives the prognostic indications; if it is positive and very strongly marked the case is grave; if it becomes milder and gradually disappears the prognosis becomes more favorable.

Aseptic surgical affections not complicated with infectious symptoms are not accompanied with positive diazo-reaction. This affection is generally absent in the evolution of neoplasms; however, the author has found it in ulcerative forms of cancer of the stomach, in sarcoma of the ganglions, in carcinoma of the ovaries and of the peritoneum. Hellendall has never found the diazo-reaction in syphilitic cases.

In actinomycosis the rule is to find a diazo-reaction very strongly marked. ("Beitrage zur Klinischen Chirurgie," 1902.)

SEROTHERAPY AND DIPHTHERIA.—The conclusions of M. Senester on the report relating to serotherapy as a preventive of diphtheria, embracing the report of MM. Netter, Bourges and Bergeron, was approved by the Academy of Medicine ("Gazette Hebdomadaire") April 13, 1902. The conclusions as adopted were as follows:

1. The injections of serum as a preventive agent has a manifest influence on the disease; they afford immunity in children who may be exposed to contact with the disease. They have never given rise to any serious accident, and at most produce in some cases temporary eruptions, and still more rarely some slight pains in the joints. Unfortunately, however, the period of immunity is of short duration, three or four weeks at the most. In the very few cases in which diphtheria appeared after the injection it was extremely mild.

2. Injections of serum are especially indicated in families in which a case of diphtheria has been developed, in order to preserve the other children from the disease.

3. Preventive injections are equally indicated for children belonging to a community, as in a school, nursery or ward of a hospital in which a case of diphtheria has occurred.

4. Even in the absence of undoubted cases the serum may be used under certain special conditions, as measles and scarletina; yet for measles the preventive action seems to be less certain. The doses should be stronger and more frequently repeated.

5. The use of injections of serum as a preventive measure should not prevent the employment of other measures, as prophylactics, as disinfectants, isolation, etc., but it renders them more effectual, easier of application and more efficacious.

THE PLAGUE.—The Académie de Médicine, at its session of April 15, reviewed its action taken at *Le Lazareth du Frioul.* M. Valin ("Progrès Médical"), April 19, reported:

The Commission on the Plague, in consideration of the remarks by MM. Laveran and Roux, at the session of March 18 last, proposes to repeal the text of the sixth conclusion found in its report, by adopting in its place the following:

"6. Every vessel that has had contact with a port or other vessel infected with or suspected of having plague must decidedly enforce the perfect destruction of rats before the discharge of its cargo, even in the absence of the disease or of a suspicious case on board; the vessel cannot be restored to service for a renewal of voyage until a minute inspection has proved that the animals have been destroyed."

The substitution of this form was unanimously adopted.

Closely allied with the above is the following report to the Société Biologie:

CARBONIC ACID AND SULPHUROUS ACID.—MM. Langlois and Lair have studied the toxic action of gas on rats. These animals resist large doses of carbonic acid gas; fleas resist a still stronger dose; they are scarcely quieted in their movements after remaining for twenty-five minutes in an atmosphere of 75 per cent. of gas.

Sulphurous acid is more poisonous than the carbonic, especially when the sulphur is burned; rats die in a vapor of 2 per cent., while in pure sulphurous acid 15 to 20 per cent. is necessary to destroy them.

Fleas die in 17 minutes in a medium of 3 per cent. Colored goods are not injured by this vapor, a fact which permits the use of this gas against the plague.

M. Chantemesse calls to mind the fact that according to the experiments made in New Orleans with sulphurous acid at 17 per cent., it did not injure coffee, tea, figs, nor raisins, but other goods, as butter and cheese, were injured. There are, then, different classes of goods to be disinfected, as the cargoes vary.

ECTHOL is an American preparation made from a mixture of the fluid extract of Thuja and Echinacea angustifolia. The latter is a plant belonging to the natural order Compositæ, which grows in North America. The fresh root of this plant is in high favor with the Indians as an antidote against the bites of serpents. Dr. Stinson found that this plant promotes the flow of saliva, is a mild and inoffensive antiseptic, and, above all, an aphrodisiac. It is employed in malaria, in typhoid and in diseases of the stomach, as well as locally in the form of an aqueous solution of the fluid extract as an aphrodisiac. In addition, it may be given internally

in the form of a fluid extract or a tincture. Ecthol is said to be the most powerful antagonist of suppuration. According to Meyer this substance has a powerful effect in toxæmias. Parker, Webster, Snyder and Russell have shown that it is of great service in infectious diseases, in septic wounds, and in the bites of serpents, as well as in chronic catarrhs.—"N. Y. Medical Journal," March 15, 1902.

NEW LIGHT ON PHAGOCYTOSIS AND CHEMIOTAXIS.

The suggestion of the theory of phagocytosis by Sternberg, in 1881, and its enunciation and demonstration by Metschnikoff, in 1884, mark the beginning of an epoch in the history of medical science. The conclusion of the latter, "that in the property of the ameboid cells to include and destroy micro-organisms, the animal body possesses a formidable means of resistance and defense against these infectious agents," gave a new significance to the notion of a *vis medicatrix naturæ*, and the ability to recover from microbe infection, as well as the power of acquiring immunity, came to mean the ability of the devouring host of *macrophags* and *microphags* to subdue the horde of intruding germs. It was noticed that in some cases the leukocytes were active to ingest and digest microbes, while in other cases there was apparently no desire for a bacterial diet. To account for this behavior the theory of positive and negative chemiotaxis was formulated, and Metschnikoff asserted that leukocytes are powerfully attracted by many micro-organisms and as powerfully repelled by others. In the presence of negative chemiotaxis, being shunned by the phagocytes, the microbes propagate and bring about death. He pointed out the mutability of chemiotaxis, and called attention to the loss of resisting power following the transformation of positive into negative chemiotaxis, or acquiremnt of immunity by the reverse action. Then arose the theory of antitoxins of Behring and Kitasato (the *alexins* of Buchner, the defensive proteids, sozins and phylaxins of Hankin, etc.), which relegated phagocytosis and chemiotaxis to a back seat for a time; but now comes a countryman of Metschnikoff, Dr. Wèrigo, who concludes from his experiments on chicken cholera in rabbits "that in many diseases the specific micro-organisms possess a layer of dissolved bacterioprotein which stimulates the white blood-corpuscles and determines phagocytosis. In the latter stages of chicken cholera in rab-

bits this layer fails to be produced, and as a result phagocytosis ceases. Immunity-conferring sera dissolve the bacterioproteins and thereby lead to the development of phagocytosis. Immunity is determined by phagocytosis. Antitoxic and bactericidal sera strengthen phagocytosis and only exceptionally act as independent agents." Thus we have chemiotaxis accounted for by the presence or absence of dissolved bacterioprotein, the action of antitoxins and the transformation of one form of chemiotaxis into the other elucidated and the theory of phagocytosis rehabilitated.—"American Medicine," April 26, 1902.

HE'LL BE HERE PRESENTLY.

From "The Chicago Daily News."

We mourned not his absence, we felt it a joy,
Though we knew he would come back some day.
It is likely he may not have meant to annoy
Or have thought he was much in the way.
For months we have missed him, but time's nearly up.
He will come and dwell with us once more,
He will sit at our board and will drink of our cup,
As he's sat and he's sipped oft before.

We tried to convince him his presence was not
By any means wanted, but he
Ignored all our snubs and, not caring a jot,
Continued with us to make free.
We put deadly poisonous stuff in his food,
We set subtle snares for his feet.
We smote him; but none of it did any good—
There was nothing would make him retreat.

There was nothing we owned that was sacred to him.
His faults they were hard to condone,
He fussed all about with a devilish vim
And he never would leave us alone.
He'd wake us at morning. From that moment on
Into every blamed thing would he pry.
We must put up the screens, now that Winter is gone,
To fool the pestiferous fly.

ATHLETICISM AND THE RHODES STANDARDS.

In designating the qualities which are to be accepted as qualifications in the young Americans awarded Oxford scholarships, the late Cecil Rhodes tells us more accurately than any biographer could what were his own standards of complete young manhood. That he could not himself attain them in early life may be attributed to the causes which interrupted his college course and carried him into unwilling exile, as the wild Tartar horse bore the helpless Mazeppa to a throne. First in the order of his preference he places scholarship and scholastic attainments. Second he places fondness for and success in athletic sports. Third he demands in the candidate the qualities which make up the character of an all-round gentleman. Last he names high moral character, the instinct of leadership, and interest in his companions. On reflection he seems to have recognized that he had stated these qualities rather in the order of his preference than with regard to their relative values, for he suggests that out of a possible rating of 10 the first should count as 4, the second as 1, the third as 3, and the fourth as 2. This is more interesting than the mere cataloguing of qualities which any one would recognize as part of the make-up of a complete young man with large potentialities of usefulness and success.

In rating fondness for and excellence in athletic sports as the least of the qualifications sought in a young man to be fitted for a career of conspicuous value to humanity, Mr. Rhodes reflected the best scholastic thought of his time. He knew too well the value of a sound body and vigorous health to characterize as "flanneled fools" and "muddied oafs" those who have a wholesome love of vigorous physical exercise; but one who had earned his degrees as his were earned, by leaving behind him the opportunity to win great wealth and attain vast power while he patiently completed the interrupted studies of his earlier years, realized as few could that the chief end of man is not to excel at football or cricket, and that during the precious years of youth play should be properly subordinated to the more serious purposes of collegiate training.

There is a reaction in England against the overdoing of college and university athletics to which "The London Times" has given the powerful support of its editorial approval. In a recent

discussion of this subject it took the ground that to permit a young man to devote himself chiefly to training for interscholastic and intercollegiate "events" at the time when what he most needs is mental training and discipline to fit him for the serious business of life is to waste precious opportunities without present or ultimate compensation. "It is impossible," says "The Times," "to shut one's eyes to the fact that from an educational, if not from a national, point of view, the thing is vastly overdone." Its effect is to unfit young men for the careers to which their mental endowment and social advantages would warrant them in aspiring. A great many fine specimens of the human animal may be the product of this system, but even in this respect its value has been over-estimated. Cause and effect are often transposed to the confusion of the seeker after a basis for safe generalizations. The fact that only young men with a superior physical endowment excel in athletics sufficiently accounts for the fact that those who excel in athletics are usually fine specimens of physical manhood.

That there is also a reaction in progress in this country against the fad of academic and collegiate athleticism is indicated by the fact that it is becoming increasingly difficult to find young men of the kind wanted who are willing to "go in" for athletics seriously enough to satisfy the professional trainers of school and college teams. The difficulty is, perhaps, due rather to parental prohibition than to youthful disinclination. When it becomes an impossibility, it may occur to the Faculties of these institutions to consider whether the surplus energies of young men ambitious to excel cannot be directed into other and more productive channels.—"New York Times."

HENRY DUNANT.

THE FOUNDER OF THE RED CROSS SOCIETY.

The Royal Academy of Sweden has awarded Henri Dunant, founder of the Red Cross Society, a sum of 104,000 francs. This sum was one of the Nobel prizes to be awarded to those who have rendered the greatest services to humanity. The "Magasin Pittoresque" gives the following sketch of M. Dunant and his work:

M. Henri Dunant was born in Geneva the 8th of May, 1828. was of French ancestry, his family having sought refuge in Gen-

eva at the time of the religious persecutions following the Reformation. From his youth he had been interested in charitable works. Before devoting himself to those wounded in war, he devoted himself to the poor, the disinherited, the oppressed. Already his mind was occupied with questions of universal harmony and fraternity among nations as well as among individuals; his broad and benevolent spirit already soared above distinctions of race.

It was upon the battle-field of Solferino and in the charnel-house of Castiglione that the idea of the Red Cross Society germinated. At Solferino, in 1859, Dunant was the sad witness of the sufferings which the wounded endured, while lying for days upon the ground deprived of all succor. Aided by a few high-souled women, he organized a corps of relief in the little town of Castiglione, binding up the wounds of the men with his own hands, working indefatigably among these men devoured with fever and suffering all kinds of torture.

"The gentleman in white," as Dunant was called by the wounded, because on account of the heat he was clad in white linen, carried away with him from these scenes of desolation the thought that devoted volunteers, skilled in the management of litters and possessing some knowledge of nursing, well organized and disciplined, and enjoying likewise with the hospitals and supplies an absolute neutrality, might be of inestimable service in the wars of the future. Dunant believed that this result might be accomplished if the various nations would adopt the same signal of recognizance, a sacred standard that should insure absolute immunity to all those beneath its folds. Such is the origin of the white flag with the red cross, to-day adopted by almost all civilized countries. The blood of the wounded at Solferino caused to germinate the seeds of pity and generosity.

Upon his return to Geneva, Dunant wrote a "Souvenir of Solferino," in which he laid bare all the horrors of war. The book made an immense sensation, and was immediately translated into several different languages. If he had his detractors, he had on the other hand warm defenders. The French Minister of War at this time, M. Randon, did not hide his hostility to Dunant, and cried: "What business have these civilians to meddle with what does not concern them?" But MacMahon, Lebœuf, and Canrobert, and later Napoleon, ranged themselves on the side of Dunant, and Victor Hugo wrote to the author of Solferino: "You are enlisting humanity and serving the cause of liberty. I applaud

your noble efforts." And General Trochu said: "All that Dunant says is perfectly true; he has even understated the truth." These were precious encouragements when the violent opposition of Marshal Randon came near compromising the success of his work in France.

"In other countries Dunant found from the beginning the most favorable reception. Sovereigns and people equally responded to the appeal made by the philanthropist upon universal charity."

In October, 1863, the conference of Geneva was called. This was followed in August, 1864, by a congress which met in the Hotel de Ville of Geneva, at which the "Convention for the amelioration of the condition of soldiers wounded in battle" was signed by the representatives of twelve Powers.

France was the first to ratify the convention, and now all the civilized countries have adhered to the treaty except Brazil, China, and Morocco. The last to join was the republic of Uruguay.—Translation made for and from "The Literary Digest."

PROGRESSIVE PUDDUKKOTTAI.

From the "Lahore Tribune."

Advance Puddukkottai! A novel experiment is being made in the native State of Puddukkottai. The Rajah, anxious that the needs of the people should be learned not only from the persons charged with the administration of the State, but from others who have opportunities of mixing with the people and discovering their needs, has formed a Representative Assembly to make suggestions and to receive accurate information regarding the action taken by the Government. A recent meeting of the Assembly was addressed by the Dewan, who laid before it details of the past year's administration, and discussed the suggestions that had been made to the Durbar.

Among the projects which the Durbar hopes to carry out at an early date are the reconstruction of the Sanitary Department, the formation of local committees to supervise sanitation in important villages, the introduction of rules to insure efficiency in the public service, the construction of storage reservoirs for irrigation purposes, electric lighting and pipe-water supply for Puddukkottai town, construction of a metre-gauge railway through the State, construction of bridges, roads, etc. It is intended to organize a special party to carry out the restoration of the tanks of the State.

EDITOR'S TABLE.

SANITARIAN, JUNE, 1902.

☞All correspondence and exchanges, and all publications for review, should be addressed to the editor, Dr. A. N. Bell, 337 Clinton St., Brooklyn, N. Y.

THE MARTINIQUE VOLCANO AND CALAMITOUS MORTALITY.

Nothing is more heart-rending or more awakening to universal sympathy than such events as have recently befallen the inhabitants of Martinique and St. Vincent, in the sudden death of hundreds and, in this case, perhaps, when the full extent of the calamity is known, not less than thirty thousand. The sympathy of civilized people everywhere, and the prompitude of material aid to surviving sufferers by our own nation and people in particular, emphasize as nothing else could, the solidarity of Christian sympathy. Death is natural to life under all circumstances; but the uncertainty of the time of its occurrence and the intervention of disease common to it are the factors above all else to the enjoyment of life while it lasts. Hence sudden death, even to the single individual without any premonition, is always shocking to contemplate, and terrible it must be for the moment to the subject of it. For a multitude so overtaken, imagination revolts at the contemplation.

Of the published accounts of the eruption that have come under our notice, the following extracts from "The Voice," of St. Lucia, printed at Castries, St. Lucia, May 8, are the most particulate:

"The Montagne Pelee, in the last days of April, began to show signs of uneasiness. On the 3d inst. it began to throw out dense volumes of smoke, and at midnight belched out flames accompanied by rumbling noises. At 5.30 A. M. (May 4), flames were again visible, and similar noises were audible. The town of St. Pierre was covered with a layer of ashes about one-quarter of an inch thick, and appeared as though enveloped in a fog. The mountain was invisible, being wrapped in the smoke which issued from it. The greatest anxiety prevailed, and all business was suspended.

"A very anxious morning was passed at Martinique, May 4. Thanks, however, to a sea breeze which rose about 11 A. M., the situation appeared better, but as the breeze died away at sunset a

large quantity of ashes again began to fall, and the mountain and its environs presented a most dismal spectacle, causing much alarm as to what the night would bring forth. Nothing happened, however, and on Monday morning (May 5), although everything was not quite serene, the aspect was decidedly encouraging. Less excitement prevailed.

"At about 9 A. M. on the morning of the 6th, a private telegram was received from Martinique advising that the Plissonneau family had chartered the steamer Topaze, one of the boats of the Compagnie Girard, and had started for St. Lucia at 5 A. M.

"At about 11 o'clock the Topaze arrived.

"They reported that at noon on Monday, May 5, a stream of burning lava had suddenly rushed down the southwestern slope of the mountain, and, following the course of the Rivière Blanche, the bed of which is dry at this season of the year, had overwhelmed everything which obstructed its tremendous rush to the sea. Estates and buildings were covered up by the fiery wave, which appeared to rise to a height of some twenty feet over an area of nearly a quarter of a mile.

"When the torrent had poured itself into the sea it was found that the Guerin sugar factory, situated on the beach near the mouth of the Rivière Blanche, about five miles distant from the mountain and two from St. Pierre, was entirely imbedded in lava, the tall chimney alone being visible. The burning mass of liquid had taken only three minutes from the time it was first perceived to reach the sea, five miles away. Then a remarkable phenomenon occurred. The sea receded all along the western coast for a distance of about 100 yards, and returned with gentle strength, covering up the whole of the sea front of St. Pierre and reaching the first houses on the Place Bertin. This created a general panic, and the people made, terror-stricken, for the hills.

"Though the sea retired again without any great damage being done ashore or afloat, the panic continued, intensified by the terrible detonations which broke from the mountain at short and irregular intervals, accompanied with dense emissions of smoke and lurid flashes of flame. This was awful in daylight, but when darkness fell it was more terrible still, and at each manifestation of the volcano's anger, people in their night clothes, carrying children and lighted by any sort of lamp or candle they had caught up in their haste, ran out into the dark streets, wailing and screaming, and running aimlessly about the town.

"The mental strain becoming unendurable, the Topaze was got

ready at 3 A. M., the refugees hurriedly went on board, and started for St. Lucia.

"At 2 P. M., the gentlemen of the party, having placed their families in safety, returned by the Topaze to Martinique.

"In the meantime, telegrams were being sent from Martinique imploring that a steamer might be chartered to bring away terrified people from St. Pierre. But the Superintendent of the Royal Mail Company at Barbados would not allow one of the coasting boats, the only steamer available, to go to Martinique. At a little before 5 P. M. cable communication was interrupted, and remains so."

The experiences of the British steamer Roddam are then detailed at length, and the story of "The Voice," of St. Lucia, continues:

"The St. Vincent volcano, which had been showing signs of uneasiness, burst into active eruption yesterday, and is throwing out showers of ashes, which are settling all over the island, while the sea for miles is covered with scoriæ, and at night flames can be seen from the south of this colony, bursting out of the crater, which emits a continuous column of smoke high up into the sky."

Writing of the conditions of enjoyable life in Martinique, in November, 1899, and they so continued until this terrible eruption of Mont Pelee, after attempting to describe the beautiful scenery of Martinique, we had occasion to say of St. Pierre, its chief city: "Through the streets there constantly runs a gutter of clean water, sweeping away all surface impurities and with an evidently inspiring affect on the habits of the people. For, if it so happens that the visitor arrives early in the morning, he will find these gutters, from the break of day to an hour later, alive with the people, particularly of the younger portion of them, disporting themselves in this delightfully *clean* gutter water, fresh from the pure streams and lakes of the mountain-side. Moreover, cleanliness in dress and habitation is everywhere manifest among the people. Beautifully laid out and clean squares ornamented with choice plants and flashing fountains; a charming public garden in the suburbs, containing a great variety of the wonderful tropical plants, with delightfully shaded walks and a museum; and here, on Sundays, a military band gives excellent music. . . . There are many delightful mountain drives, over good roads, and many places of interest to the tourist. The atmosphere is virtually oceanic, plus less humidity at 3,000 to 4,000 feet altitude, with an agreeable

temperature, amid the most delightful scenery and other outdoor enjoyments."

The condition of the people there, as also of St. Vincent, in like manner suddenly overwhelmed, and their manner of life, from all we have been able to learn of their history, were exemplary and devout. Yet there are not wanting self-righteous skeptics with regard to man's significance in relation to natural phenomena, who attribute this calamity to a special decree of Divine providence. And some of these skeptics are at their wit's end to account for it, conscientiously recognizing it as the just retribution of some moral corruption, or hidden sin, but past their finding out! Providential, indeed, those deaths were, for all deaths are, as a condition of man's life, always at the risk of antagonizing forces, be they natural or artificial—volcanoes or inundations; railcar wrecks or sinking ships, or to man's more general improvident protection of water supplies, in consequence of which more than a hundred thousand lives are destroyed in the United States annually by typhoid fever and kindred diseases.

This perennial mortality of about 275 deaths daily by recognized preventable causes, almost wholly ignored by the public and scarcely noticed by the clergy, is even more appalling to a due appreciation of the neglected functions of the authorities for permitting it, than the calamity now in question, incidental to, but independent of, man's privileges and powers.

THE TRUTH ABOUT THE PLAGUE IN SAN FRANCISCO.

STATE BOARD OF HEALTH OF INDIANA,

INDIANAPOLIS, May 17, 1902.

DR. A. N. BELL, Editor SANITARIAN:

I enclose herewith special resolutions in regard to the plague situation at San Francisco, which were unanimously passed at a meeting of the health officers of Indiana. This meeting was the regular annual conference of said officers, and was, this year, given up entirely to a discussion of the smallpox situation. We hope you will find space to print the action of the conference upon the plague situation. J. N. HURTY, Secretary.

We, the representatives of the State Board of Health of Ohio, Kentucky and Indiana, together with representatives of the county and city Boards of Health of Indiana, in conference assembled in the city of Indianapolis, April 25, 1902, in view of certain documentary evidence before us do resolve as follows:

First. We view with surprise and alarm the acts of the Governor of California and the Mayor of San Francisco, in attempting to suppress the facts relating to the presence of bubonic plague in that city. We are surprised at such attempts, because we regard the facts as fully established and beyond all question. The Board of Health of the city of San Francisco, composed of honorable gentlemen, distinguished for their scientific attainments, and holding the entire confidence of their associates and the public, published the facts in their monthly report to the city government, submitting therein all necessary data. The existence of the plague in said city was afterward confirmed, by an expert, sent there by the United States Marine Hospital Service, also by an expert employed by the State Board of Health, and finally by a commission of eminent bacteriologists of international fame, whose sole interest in the matter was to know the truth.

Second. We view with alarm this attempt to suppress the fact of the presence of an epidemic disease, the most deadly known to medical science, because with bubonic plague and cholera in a number of ports in direct communication with that of San Francisco, and with the energies of the Governor of the State and the Mayor of the city directed to the suppression of truth rather than the plague, what guarantee has the interior that it will long be exempt from the pestilence?

Third. We condemn and deplore the acts of the Governor of said State in attempting to discredit the competency and veracity of the experts above mentioned; for forcing the resignation of certain members of the State Board of Health because they concurred in the expert conclusions; for seeking to unduly influence the United States Treasury Department, and for making denial of the existence of plague a condition of appointment to the vacancies caused by the above resignations.

Fourth. We condemn and deplore the act of the Mayor of San Francisco in co-operating with the Governor as above set forth, and for removing from office the city Board of Health of San Francisco for no other reason than that in the faithful discharge of the duties imposed upon them by law, and their endeavor to protect the lives and health of the citizens of that metropolis, they published the presence of the plague, and maintained their honor against all contrary influences.

Fifth. We further declare, it is beyond our comprehension how any member of the honorable profession of medicine, conscious of the dignity of this high calling, and zealous for maintenance of

that dignity, could accept appointment to vacancies thus created under the condition expressed or implied.

Sixth. We affirm that in every State, territory and municipality of the United States where the representatives of the people have enacted laws for the protection of the lives and health of their citizens and have appointed boards whose duty it is to execute those laws, the citizens of said States, territories and municipalities have a right to hold said boards to the faithful performance of their duties, and to the prompt and effectual use of every means which the law allows and sanitary science approves for the prevention of the introduction and the spread of epidemic diseases.

Seventh. We further affirm that in the employment of such means, it is absolutely necessary to notify the public of the presence of said epidemic disease, point out the locality in which it has appeared, indicate its progress, etc., in order that the public, having knowledge, may co-operate in its extinction.

Eighth. We further affirm that in pursuance of these measures and in answer to the rightful demand of citizens for protection, infected houses should be placarded conspicuously, and if found necessary, guards should be employed and detention and isolation hospitals erected; in the employment of which measures, together with general disinfection, publicity should be courted rather than avoided.

Ninth. We further affirm that, where the responsibility of protecting the public health rests solely upon said boards, no other authority, however high, should thrust itself between them and their duties, and where individuals or corporations interfere to prevent the discharge of said duties, such should be made amenable to the law.

Lastly. We call upon sanitary associations, boards of health, medical and scientific associations throughout the country to join with us.

The above expression was fully discussed and finally adopted unanimously by the conference.

The following gentleman from other States were in attendance at the Indiana conference of health officers: Dr. Byron D. Stanton, President, and Dr. Charles O. Probst, Secretary, of the Ohio State Board of Health; also Dr. Wm. Bailey, President; and Dr. J. N. McCormack, Secretary of the Kentucky State Board of Health. All of these gentlemen formally concurred in the above action in regard to plague in San Francisco.

PURE FOOD AND PURE DRUGS.

"Medical News," May 3, is much exercised over the Pure Food and Pure Drugs Bill, as published in full in our May number, then pending in the House of Representatives, chiefly because, apparently, it confers too much power upon the Chief Chemist of the Agricultural Department, with which Department the bill seems to have originated, and for this it deserves much credit. Nevertheless, "Medical News" contends:

"If interstate commerce in manufactured foods and drugs is to be at all regulated, and it is in serious need of most careful and wise regulation, such control should come within the jurisdiction of the Treasury Department of the United States Government, and, should questions of deleterious adulteration in food or drug products arise, such should be referred for investigation to the existing medical authorities of the Treasury Department, the present Marine-Hospital Service. The Agricultural Department should have no voice in matters of commerce or of medicine, preventive or otherwise. The Agricultural Department was not instituted for that purpose—its sphere of usefulness should not extend outside of the interests of the grower of crops. The Chief Chemist is chosen for his proficiency in agricultural chemistry; he is not a sanitary expert, nor a physiologist, nor a pathologist, nor a physician, nor is he called upon to possess a knowledge of the complicated details of interstate commerce. Why, then, should any representative now in office seek to wrest these duties from a department already organized to which they might be referred with much better chance of their competent fulfillment?"

THE SANITARIAN shares to the full the high esteem here expressed for the existing medical authorities of the Treasury Department, but it would not be purblind. The fact is, that the Agricultural Department is also provided with an even older and, perhaps, an equally well, if not, indeed, better, equipped laboratory, for such analytical work as the bill in question requires, than that under the auspices of the Treasury Department. And, moreover, that it has been for several years an effective arm of defense against the spread of infectious diseases among the people, as well as animals. Hence, to attribute the relation of the Chief Chemist of the Agricultural Department, as in the bill provided, to a self-seeking interest and effort to "wrest these duties from a department already" (but more recently) "organized" (than that of the Agricultural Department) "to which they might be referred" is preposterous. The effort is to wrest it from the Department of

Agriculture, where only it has hitherto obtained. If for other and better reasons, it can be made to appear that the Bureau of the Marine Hospital Service is better equipped, or better suited to the provisions of the bill in question than the chemical laboratory of the Agricultural Department, THE SANITARIAN would heartily favor the transfer.

THE USE OF BORAX AND BORIC ACID AS FOOD PRESERVATIVES.

Victor Vaughan and William H. Veenboer ("American Medicine") conclude that the use of borax or boric acid as a preservative in butter and cream in the quantities specified in the recommendations of the English Commission is justified both by practical results and by scientific experimentation. The dusting of the surfaces of hams and bacon which are to be transported long distances with borax or boric acid, not exceeding 1.5 per cent. of the weight of the meat, is effective, and not objectionable from a sanitary standpoint. Meat thus dusted with borax or boric acid does not become slimy, because the preservative thus used prevents the growth of aerobic, peptonizing micro-organisms.

LICK THE LETTER.

"The Scientific American" invites attention to the splendid work the London "Lancet" is doing in its laboratory for the public health of Great Britain, and that it has been considering the postage stamp as not too unimportant for its attention. That blood-poisoning has, without a doubt, been traced to licking an infectious postage stamp as a cause, and the chances of a postage stamp becoming infectious are obviously abundant. This year it was decided to revert to red as the distinguishing color of the penny stamp. On examination it is found that one of the innocuous aniline reds was used, which is peculiarly resistant to atmospheric action or to the action of moisture. Strong acids disturb it but little. The adhesive material is dextrine or British gum in all cases."

No matter what the adhesive material may be, there is no reason to believe that it is wholesome. THE SANITARIAN has always abstained from the dangerous practice of tasting such stuff, and instead, licks the letter.

COMMITTEE OF THE AMERICAN PUBLIC HEALTH ASSOCIATION TO INVESTIGATE THE ARMY CANTEEN SYSTEM.

The Executive Committee of the American Public Health Association recently passed a resolution recommending the appointment of a special committee to prepare and publish, at an early

date, a pamphlet for public circulation, containing the resolution of the Public Health Association in favor of the army canteen, together with a concise statement of the data upon which this action was based, and definite references to the original sources from which such information is obtainable; such pamphlet to be issued in the name of the association.

This recommendation was made in view of the fact: (1) That an important function of the American Public Health Association is to educate the public in matters of hygiene; (2) That the action above referred to is in disagreement with the ideas of a very large number of good citizens; (3) That this is a possible opportunity of securing their understanding of the action of the association, and, it is to be hoped, their intelligent co-operation in taking successive steps toward the betterment of existing conditions.

In compliance with the above resolution, the following representative committee has been appointed:

Chairman, Dr. C. A. Lindsley, ex-President of the American Public Health Association; Secretary, Connecticut State Board of Health, New Haven, Conn.

Members: Dr. Geo. M. Kober, Professor of Hygiene, Georgetown University, Washington, D. C.; Dr. S. H. Durgin, ex-President of the American Public Health Association, Health Officer of Boston, Mass.; Dr. Helen C. Putnam, Providence, R. I.; Dr. Jefferson D. Griffiths, late Chief Surgeon, U. S. Volunteers, Kansas City, Mo.; Mr. Henry Lomb, Rochester, N. Y.; Dr. J. H. Huddleston, Surgeon, National Guard, State of New York, New York City.

It is understood that this committee will go fully into the causes which led up to the establishment of the canteen system in the army, the results of this system as observed during the decade of its existence, and the effect of its late abolition upon temperance and morals in the military service.

PATHOLOGICAL EXHIBIT.

The committee on Pathologic Exhibit for the American Medical Association is anxious to secure materials for the coming session at Saratoga, June 10 to 13, inclusive.

This exhibit was accorded much praise and comment during the sessions at Atlantic City and St. Paul, respectively, where were collected valuable exhibits from all parts of the country. The materials included not only pathologic specimens but the allied

fields, bacteriology, hæmatology, physiology and biology were well represented.

It would also be desirable to secure exhibits of new apparatus, charts, etc., used by teachers of pathology and physiology in medical colleges.

This exhibit has already become a permanent feature of the annual sessions of the American Medical Association and the Committee is desirous of securing its list of exhibits as early as possible and to this end asks those having desirable materials to communicate with any member of the Committee.

To contribute to the value of the work, it is suggested that as far as possible each contributor select materials illustrative of one classification and by such specialization enhance the usefulness of the display.

Those lending their materials may feel assured that good care will be given their exhibits while in the hands of the Committee and due credit will be given in the published reports.

F. M. JEFFRIES, 214 East 34th St., New York City.
W. A. EVANS, 103 State St., Suite 1403, Chicago, Ill.
ROGER G. PERKINS, West. Res. Med. School, Cleveland, O.
Committee on Pathologic Exhibit, American Medical Association.

MORTALITY AND MORBIDITY REPORTS AND REVIEWS.

NEW YORK.—Bulletin of State Department of Health for March, 1902: Population, 7,467,050; deaths, 10,670; death rate, 17.5; deaths under five years, 2,936; at seventy years and over, 1,897; from zymotic diseases per 1,000 from all causes, 98; cerebro-spinal meningitis, 44; typhoid fever, 112; malarial diseases, 16; smallpox, 51; scarlet fever, 134; measles, 138; erysipelas, 33; whooping cough, 69; croup and diphtheria, 247; diarrhœal diseases, 227; acute respiratory diseases, 1,951; consumption, 1,235; puerperal diseases, 120; diseases of the digestive organs (not diarrhœal), 606; of the urinary system, 911; circulatory system, 1,167; nervous system, 1,176; cancer, 406; accidents and violence, 487; old age, 442; unclassified, 1,363.

City of New York, 3,632,501; deaths, 6,010; death rate, 19.5; deaths under five years, 2,029; from zymotic diseases per 1,000 from all causes, 120; cerebro-spinal fever, 24; typhoid fever, 26; malarial diseases, 13; smallpox, 44; scarlet fever, 112; measles, 103; erysipelas, 19; whooping cough, 49; croup and diphtheria,

174; acute respiratory diseases, 1,253; consumption, 736; cancer, 208.

For the quarter ending March 31, total deaths, 18,364; under one year, 3,500; one year and under two, 1,426; total under five years, 6,228; sixty-five years and over, 2,696; death rate, 20.52. Causes of death: Typhoid fever, 99; malarial fevers, 32; smallpox, 127; measles, 349; scarlet fever, 356; whooping cough, 135; diphtheria and croup, 581; influenza, 99; other epidemic diseases, 100; tuberculosis pulmonalis, 2,015; tubercular meningitis, 190; other forms of tuberculosis, 163; cancer, malignant tumors, 565; meningitis, simple, 328; apoplexy, congestion and softening of brain, 711; organic heart disease, 1,459; acute bronchitis, 719; chronic bronchitis, 104; pneumonia (excluding broncho-pneumonia), 2,453; broncho-pneumonia, 1,181; diseases of stomach (cancer excepted), 172; diarrhœas (under two years), 316; hernia, intestinal obstruction, 126; cirrhosis of liver, 201; Bright's disease and nephritis, 1,510; diseases of women (not cancer), 93; puerperal septicæmia, 87; other puerperal diseases, 102; congenital debility and malformations, 584; old age, 270; violent deaths, 777; other accidents, 599; homicide, 19; suicide, 159; all other causes, 2,017; ill-defined causes, 343.

Spitting on the Sidewalks Forbidden.—As the result of a communication received by President Lederle from Dr. Herman H. Biggs, the medical officer of the Board of Health, at its meeting May 14, amended its code so as to forbid spitting on sidewalks. In his letter, Dr. Biggs said:

"A grave feature of the pollution of public places of assembly and public conveyances is the inevitable transmission of the always objectionable and dangerous material on the footwear, clothing, and particularly the skirts of women, into private houses, where it is a constant menace to the welfare of the occupants whose attempts to maintain salubrious conditions are rendered futile. The action of the department taken six years ago has been productive of much good. There is still less excuse for spitting on the sidewalks than in the other places mentioned."

Borough of Manhattan, for March, 1,895,491; deaths, 3,342; death rate, 20.5; deaths under five, 1,179; zymotic diseases per 1,000 from all causes, 114; cerebro-spinal fever, 19; typhoid fever, 17; smallpox, 4; scarlet fever, 58; measles, 45; whooping cough, 26; croup and diphtheria, 94; acute respiratory diseases, 682; consumption, 370; cancer, 114.

Borough of the Bronx, 244,141; deaths, 426; death rate, 20.5;

deaths under five, 157; from zymotic diseases per 1,000 from all causes, 200; smallpox 24 (smallpox hospital in this borough); scarlet fever, 12; measles, 28; croup and diphtheria, 7; acute respiratory diseases, 81; consumption, 98; cancer, 10.

Borough of Brooklyn, 1,249,650; deaths, 1,889; death rate, 20.7; deaths under five, 592; deaths from zymotic diseases per 1,000 from all causes, 125; typhoid fever, 8; smallpox, 16; croup and diphtheria, 67; acute respiratory diseases, 416; consumption, 228; cancer, 72.

Borough of Queens, 172,472; deaths, 242; death rate, 21.5; deaths under five, 74; from zymotic diseases per 1,000 from all causes, 82; croup and diphtheria, 7; acute respiratory diseases, 48; consumption, 24; cancer, 8.

Borough of Richmond, 70,747; deaths, 111; death rate, 18.5; deaths under five, 27; from zymotic diseases per 1,000 from all causes, 36; acute respiratory diseases, 26; consumption, 16; cancer, 4.

Richmond's New Health Officer in Office.—Dr. John T. Sprague, who has been appointed assistant sanitary superintendent of the Borough of Richmond, to succeed the late Dr. Theodore Walser, has assumed his new duties. Dr. Sprague is a staff physician of the S. P. Smith Infirmary. Prior to the consolidation he was health officer of the Board of Health of Edgewater, and afterward was attached to the Health Board of the borough.

Albany, 94,151; deaths, 120; death rate, 15.3; deaths under five, 12; from zymotic diseases per 1,000 from all causes, 35; acute respiratory diseases, 21; consumption, 18; cancer, 11.

Syracuse, 108,374; deaths, 125; death rate, 13.5; under five years, 25; from zymotic diseases per 1,000 from all causes, 110; acute respiratory diseases, 14; consumption, 11; cancer, 6.

Buffalo, 352,387; deaths, 520; death rate, 17.4; deaths under five, 166; from zymotic diseases per 1,000 from all causes, 121; from acute respiratory diseases, 74; consumption, 53; cancer, 27.

Rochester, 162,608; deaths, 176; death rate, 12.0; deaths under five, 26; from zymotic diseases per 1,000 from all causes, 50; from acute respiratory diseases, 20; consumption, 15; cancer, 7.

Smallpox continues in numerous places in the Adirondack region. Now (the last of April) there exist as reported, at Old Forge and Partlow, Herkimer county, 5 cases; Tupper Lake and Dickinson, Franklin county, 25; Hopkinton and Edwards, St. Lawrence county, 16; Crogan, Lewis county, 2; Newcomb, Essex county, 4; Champlain, Chazy, Plattsburg and Saranac, Clinton

county, 8 (the last not recently reported on); and 4 or five in the towns of Albion and Richland, Oswego county, about 75 cases in all. During April, 5 cases have occurred at Mt. Vernon, Tarrytown, Mamaroneck and Islip, near New York City; 12 cases have developed in Albany and 2 at Troy, brought to a cheap lodging place by a tramp from Massachusetts; and 1 at Auburn direct from Virginia. There were 51 deaths during March from smallpox; 3 at Bangor, 1 each at Binghamton, Wellsville and Albany, and 44 in New York City. There were reported about 300 cases in New York City during March and relatively at the same rate of prevalence since.

CALIFORNIA.—San Francisco, 360,000. Report for March: Deaths, 640; death rate, 21.3; deaths under five, 96; deaths from specific febrile diseases, 39; from diphtheria, 28; consumption, 69; other tubercular diseases, 16; pneumonia, 22; other diseases of the respiratory system, 26; cancer, 13.

San Francisco, April 20.—Another case, the 54th, of bubonic plague in the city. Dr. W. S. White, M. H. S., in charge of Plague Laboratory, reports to the president of the San Francisco Board of Health "the provisional diagnosis in the case of Chin Suey Kim, autopsied to-day, is bubonic plague. The following history has been obtained by me: Age 30 years; late resident of Davisville, Cal., from which city he arrived in San Francisco on the evening of April 17, and took quarters at the undertaking establishment of Man Fook, 838 Clay street, where he died at five o'clock to-day."

Los Angeles, 120,000; report for April: Total deaths, 172; under five years, 25; annual death rate, 14.33; deaths from specific infectious diseases, 60. There were 49 deaths from tuberculosis, divided as follows: "Natives of Los Angeles, 2; natives of the Pacific Coast outside of Los Angeles, 3; from other parts, 44; of the 49 deaths from tuberculosis, 19 had lived here less than three months, 3 between three and six months, 3 between six and twelve months, 6 between one and five years, 6 between five and ten years, 11 over ten years, 1 life, unknown, 0."

COLORADO.—Denver, 133,859. Reports of Bureau of Health for January and February: Deaths in February, 227; 21 under five; death rate, 18.08. Deaths from phthisis, 60; 55 contracted elsewhere. Diphtheria, 49 cases, 4 deaths; scarlet fever, 98 cases, 7 deaths; smallpox, 17 cases, no deaths.

CONNECTICUT.—State Board of Health report for 1901, with registration report for 1900, relating to births, marriages, deaths and divorces: Special gratification is expressed at the evidences of marked and continued improvement in the progress of sanitary work attributable to the change in the mode of appointment and tenure of office of the health officers, and the improved co-operation of the people as the result of taking the administration of public hygiene out of politics; since the health officer no longer depends upon the uncertainty of the popular vote and brief tenure of office, but instead, now holds his office for a term of four years, and his services are recognized and appreciated by reasonable compensation. This change has elevated the standard of official capacity and sense of personal responsibility among health officers almost universally throughout the State. It is echoed in the report all along the line, not only by the joint work of the Board, but by the members severally, and by the town and city health officers' reports. Greatly improved and effective regulations have been adopted requiring the prompt reporting of first cases of infectious and contagious diseases; against the danger of delayed burial of corpses, the toleration of nuisances and expectoration upon the floors of public buildings, or upon the floor or platform of trolley cars; requiring prompt correction of house and soil drainage when reported dangerous by health officers; against keeping swine, fowls or goats in such a place or manner as to become a nuisance; for the cleanliness of markets and proper disposal of butchers' offal; against the accumulation of garbage in or around the immediate vicinity of any dwelling house or place of business; the regulation of bone boiling and other animal matter rendering works; the prompt segregation of persons affected with contagious diseases, and, as soon as practicable, the cleaning and disinfecting of premises and effects occupied and used by all such persons; in short, such regulations as imply constant vigilance and aggressive work against the conditions promotive of sickness. Several legislative enactments adding force to these regulations follow. The practical sanitation of public schools has been introduced and followed by gratifying results. Vaccination is urged as the prime necessity for the prevention of smallpox, compared with which all other methods or efforts for securing immunity from, or arresting the spread of, smallpox are but temporary at most and the end worthless. Nevertheless, "Connecticut is to be congratulated that with a population of over 908,000 there have been only forty-eight cases of smallpox; at a time, too, when it is prevailing so exten-

sively in other States with which we have such constant intercourse." Of the eighteen city and twenty-two borough health officers, all have reported; and of the 168 towns, 161 reported: an evidence of co-operative work with, as remarkable as it surely is gratifying to, the State Board. With a few exceptions, these reports show an intelligent appreciation of the sanitary regulations; and, as a whole, an intelligent characterization of the local conditions in relation to preventive medicine.

"Miscellaneous Papers" consist of Reports of delegates to health organizations and conferences; "The Powers of Town Health Officers," by Edward Yeomans, Esq.; "Ought Local Health Officers to be Qualified Physicians?" by W. U. Pearne, Esq.; "Report of the Epidemic of Typhoid Fever in New Haven During the Spring, 1901," by Herbert E. Smith, M.D., chemist of the Board; "Report of the Cause of the Prevalence of Typhoid Fever in Ridgefield," *ibid.;* "Report on the Investigation of River Pollution and Water Supplies," *ibid.;* "Sewage Disposal at Simsbury, Conn.," by T. H. McKenzie, C.E., member of the Board.

Vital statistics, 1900: Births, 2,560; marriages, 6,991; divorces, 452; deaths, 16,368; 1 birth to every 44.1 persons; 1 marriage to every 129.9 persons; 1 divorce to every 15.57 marriages, and 1 death to every 50.1 persons. Death rate, 18.0. Causes of death: Zymotic diseases, 3,591; parasitic diseases, 3; dietetic diseases, 88; constitutional diseases, 2,636; developmental diseases, 956; local diseases, 7,644; violence, 848; ill-defined and cause not stated, 602. Deaths from consumption and other tubercular diseases, 1,692.

Bulletin for April, 1902: By monthly reports received there were 1,191 deaths; 48 less than in March, and 62 less than in April of last year, and 111 less than the average number of deaths in April for the five years preceding. The death rate was 16.1 for the large towns, for the small towns 14.7, and for the whole State, 15.7. The deaths reported from infectious diseases were 252, being 21.1 per cent. of the total mortality.

Cases of infectious diseases reported: Smallpox, 61, in 13 towns; measles, 127, in 26 towns; scarlet fever, 338, in 54 towns; diphtheria and croup, 113, in 35 towns; whooping cough, 68, in 11 towns; typhoid fever, 37, in 16 towns; consumption, 18, in 11 towns.

The smallpox prevalence has almost entirely ceased. Fresh cases of the disease have appeared since the last Bulletin was issued, in only a few towns. This peculiar exemption of Connecticut, as compared with other States, can only be attributed to the

protective influences of vaccination. School visitors have required vaccination as a prerequisite to attendance of pupils. Health officers have advised and promoted vaccination in many towns in advance of an invasion of the disease, and so the people have been protected.

DISTRICT OF COLUMBIA.—278,880—86,467 colored. Report for the fiscal year ended June 30, 1901. Total deaths, white, 3,430, death rate, 17.82; colored, 2,657, death rate, 30.73: 21.83. Deaths of children under 5: white, 15,905; colored, 7,258. Deaths from diphtheria, 86; typhoid fever, 193; tuberculosis of the lungs, 871; other diseases of the respiratory system, 749.

Returns of births, 4,531—2,780 white, 1,751 colored; 524 still births—195 white, 329 colored. Marriages, 1,877—1,274 white, 603 colored.

Report for the week ended May 3, 1902: Deaths, 108, as compared with 113 in the previous week and 110 in the corresponding period of last year. The annual death rate fell from 20.1 last week, and 20.5 last year, to 19.2. Of the decedents 60 were white and 48 colored. Mortality from pneumonia decreased from 20 week before last to 10, and consumption from 18 to 16. There were 5 fatal cases of whooping cough and 3 of diphtheria. No new case of smallpox developed during the week and none was discharged, leaving two cases in the hospital holding over from the previous week. The 54 cases of typhoid fever under medical treatment at the last report were increased by 11 new cases and lessened by 6 discharged, leaving 59 cases at the close of this report under supervision.

Of scarlet fever 4 new cases were reported and 2 discharged, which increased the number of cases in isolation from 22 to 24, in 16 premises.

There were 11 cases of diphtheria in quarantine at the close of last week. New cases, numbering 11, developed, and 7 being discharged left 16 cases with warning cards in 9 premises.

A report in reference to Major Sylvester's recommendation that a law be enacted to regulate bath and massage houses has been submitted to the District Commissioners by Dr. W. C. Woodward, District Health Officer. He holds that the business of conducting such houses is so distinct from the practice of medicine that it would be unreasonable to require the would-be proprietor to comply with the law regulating the registration of physicians. The alternate proposition that an application signed by at least six

physicians be required for permission to conduct such establishments would probably fail to accomplish the purpose of the proposed law unless the endorsers were held responsible to some extent. The proposition is made that the establishment of such houses for improper purposes can be best restricted by requiring the proprietor to file with the commissioners a bond conditioned on the maintenance of his establishment for the sole purpose of giving baths and massage, and that it will be maintained in a manner entirely in accordance with the law and not detrimental to public morals. It is further suggested that the proprietor keep a register of the full name, age, present and former residence of each employee and attendant. A second register should show the name and address of each person receiving a bath or massage, unless such person presents a written order for treatment from a duly qualified medical practitioner. These records should be kept for a specified time, and should be open to inspection by the mayor, superintendent of police or any authorized person. A penalty should be imposed for violations.

INDIANA.—The State Board of Health Bulletin reports 2,716 deaths in April, a rate of 13.1. In the corresponding month last year there were 2,839 deaths; a rate of 13.7. In the preceding month there were 3,045 deaths; a rate of 14.2. By important ages the deaths were: Under 1 year, 411; 1 to 5, 170; 5 to 10, 61; 10 to 15, 76; 65 and over, 760. By important causes—pulmonary tuberculosis, 381; other forms of tuberculosis, 48; typhoid fever, 41; diphtheria, 24; scarlet fever, 12; measles, 12; whooping cough, 20; pneumonia, 352; diarrhœal diseases, 22; cerebro spinal meningitis, 30; influenza, 37; puerperal septicemia, 14; cancer, 82; violence, 18; smallpox, 6.

All cities, representing a population of 857,840, reported 1,166 deaths; a rate of 16.5. The county, representing a population of 1,658,622, reported 1,550 deaths; a rate of 11.4.

SICKNESS.—Smallpox was the most prevalent disease during the month. There were 878 cases reported in 55 counties and 6 deaths. The order of prevalence of diseases was: Smallpox, rheumatism, tonsillitis, pneumonia, bronchitis, measles, influenza, intermittent fever, pleuritis, typhoid fever, diarrhœa, scarlet fever, erysipelas, whooping cough, diphtheria, cerebro-spinal meningitis, dysentery, cholera infantum, puerperal fever.

ILLINOIS.—Chicago, 1,758,025. Health Board Bulletin for the week ended May 10, 1902:

While the 49 more deaths reported last week represent an increase of 8.3 per cent. over the mortality of the week previous and of more than 12 per cent. over that of the corresponding week of 1901, the Department sees nothing in the general conditions to cause a modification of the anticipation expressed in the Bulletin of May 3—of "a continuous decrease of mortality during the next two months." Within the past fortnight there has been a marked change in the type of all the contagious diseases. Scarlet fever, diphtheria, whooping cough and measles are much milder than a year ago; so much so that measles, which is epidemic throughout all sections, caused only one death last week, whooping cough but 3, diphtheria, 5; and scarlet fever, 9; or 10 less than the week before. Smallpox, on the other hand, has changed from the mild type to a much more severe form, as noted in the Bulletin of April 19, and the first deaths from the disease since Jan. 3 occurred during the week. This disease, however, is of minor importance in Chicago, as it is in any well-vaccinated community. The record for the year is another proof of the soundness of the maxim formulated by the Department: Smallpox is a disease of ignorance or of superstition—ignorance of the virtue of vaccination or a superstitious dread of one of the most benign of all the agencies of preventive medicine. Of the total 169 cases discovered and treated since the first of the year, not a single one had ever been properly vaccinated, and the great majority of the victims come from the lowest classes. It is a disgrace to have smallpox.

IOWA.—Health Bulletin for March and April: Infectious diseases have been reported to the secretary during the months of February and March—diphtheria in 17 localities; measles in 11; scarlet fever in 68; smallpox in 140! It would seem to be easier to report localities in the State where smallpox is absent.

KANSAS.—The secretary of the State Board reports for April: *Smallpox* in 33 localities, with an aggregate of 457 cases and one death.

LOUISIANA.—New Orleans, 305,000—81,500 colored. Report for March: Total deaths, 563—197 colored; deaths under 5, 103. Death rates, white, 19.65; colored, 29.00: 22.11. Deaths from tuberculosis of lungs, 71—30 colored; typhoid fever, 10; malarial fevers, 6; diphtheria, 4; influenza, 22; Bright's disease, 42; pneumonia, 84; bronchitis, 13; broncho-pneumonia, 4; cancer, 11.

MICHIGAN.—The Secretary of the State Board of Health reports for April, 1902, compared with the preceding month, measles,

erysipelas, remittent fever and meningitis were more prevalent; and pneumonia and typhoid fever were less prevalent. Compared with the average for April in the ten years, 1892-1901, smallpox and typhoid fever were more than usually prevalent; and consumption, intermittent fever, erysipelas, remittent fever, whooping cough and diphtheria were less than usually prevalent. Meningitis was reported present at 18 places; whooping cough at 34 places; diphtheria at 51 places; typhoid fever at 68 places; measles at 156 places; scarlet fever at 183 places; smallpox at 236 places, and consumption at 240 places.

Reports from all sources show meningitis reported at 9 places more; whooping cough at 6 places more; diphtheria at 11 places less; typhoid fever at 13 places less; measles at 30 places more; scarlet fever at 4 places less; smallpox at 9 places more; and consumption at 15 places more, than in the preceding month.—Death returns to the Department of State, for the month, 2,850; a decrease of 109 from the preceding month. The death rate, however, 14.1, was the same as that for March. There were 492 deaths of infants under one year of age, 219 deaths of children aged 1 to 4 years, inclusive, and 865 deaths of persons aged 65 years and over. Deaths from pulmonary tuberculosis, 206; other forms of tuberculosis, 37; typhoid fever, 37; diphtheria and croup, 31; scarlet fever, 30; measles, 35; whooping cough, 25; smallpox, 5; pneumonia, 354; influenza, 45; cancer, 134; accidents and violence, 153.

MINNESOTA.—Minneapolis, 240,000. Report for the year ending December, 31, 1901: Deaths from tuberculosis of lungs, 248; penumonia, 214; diphtheria, 190; heart disease, 163; suicides and accidents, 161; carcinoma, 133; typhoid fever, 121; Bright's disease, 117; senility, 74.

Smallpox.—During the year 1901 there were reported in the State of Minnesota 8,475 cases of smallpox. Of this number Minneapolis, with about one-fifth of the State's population, had but 361 cases. This small number is due, in no small degree, to the crusade of vaccination and isolation of the patients at the quarantine hospital, and the enforcement of rigid quarantine. It can safely be said that the business interests of the city were conserved, but at no time was the dread or fear of an epidemic entertained by the department.

Total mortality from all causes, 2,510—655 under 5 years; death rate, 10.46.

MISSOURI.—St. Louis, 598,000. Report for March: Total deaths, 1,030—222 under 5 years; death rate, 19.48. Deaths from typhoid fever, 11; scarlet fever, 14; whooping cough, 16; smallpox, 2; croup and diphtheria, 35; consumption, 97; pneumonia, 141; bronchitis, 73; other respiratory diseases, 38; cancer, 35.

NEW JERSEY.—Smallpox continues extensively epidemic. The State Board of Health has issued (February) a circular urging vaccination as the absolutely essential means of protecting the community; and giving needful directions to sanitary inspectors, railroad employees and others, with regard to the detection, prompt and complete segregation of first cases of it and other dangerous and communicable diseases, and subsequent disinfection of premises and effects.

Newark, 250,000. For the week ended May 3: Deaths, 87; from contagious and infectious diseases, 19—2 from smallpox; from consumption, 10; pneumonia, 8; grippe, 5; bronchitis, 2. Annual death rate, 17.74.

NORTH CAROLINA.—The State Board of Health Bulletin reports for March: Total deaths in 29 towns, with an aggregate population of 154,550 (61,750 colored): deaths, 251—117 colored; death rates, white, 17.3; colored, 22.6: 19.6; deaths under 5 years, 56; from pneumonia, 52—23 colored; consumption, 42—21 colored.

OHIO.—State Board of Health Bulletin for nine weeks ended March 29, 1902.—Cases of infectious diseases and deaths therefrom in 77 localities, with an aggregate population of 1,433,098: Croup and diphtheria, 363 cases, 63 deaths; scarlet fever, 587 cases, 31 deaths; typhoid fever, 337 cases, 67 deaths; whooping cough, 89 cases, 7 deaths; measles, 2,214 cases, 24 deaths. *Smallpox,* January 1 to March 31, in 99 places, 825 cases, 16 deaths.

PENNSYLVANIA.—Philadelphia, 1,293,697. Report for week ended May 10: Deaths, 456—106 under 5 years; from typhoid fever, 15; smallpox, 2; croup and diphtheria, 7; consumption, 58; pneumonia, 56; cancer, 13.

Pittsburg, 346,000. Report for week ended May 10: Deaths, 134—49 under 5 years; death rate, 20.14; from measles, 6; scarlet fever, 6; typhoid fever, 9; consumption, 10; pneumonia, 23; bronchitis, 3; cancer, 2.

SOUTH CAROLINA.—Charleston, 55,857—31,522 colored. Department of Health Report for 1901: Deaths, 1,626—1,149 col-

ored. Death rates: white, 8.53; colored, 20.56: 29.09.—Deaths from consumption, white, 26; colored, 83; malarial fever, white, 12; colored, 34; typhoid fever, white, 17; colored, 31; pneumonia, white, 19; colored, 97; apoplexy, white, 29; colored, 30; enterocolitis, white, 28; colored, 41; enteritis, white, 3; colored, 36; heart diseases, white, 27; colored, 46; kidney diseases, white, 61; colored, 147; marasmus, white, 10; colored, 50; stillborn and premature births, white, 39; colored, 188. The names of 22 white persons are given, whose ages, at death, were from 80 to 92 years; of 30 colored persons, 28 from 80 to 96, 2, respectively, 102 and 106.

TENNESSEE.—Memphis, 110,000—49,000 colored. Board of Health reports for January, February and March, 1902: Total deaths and death rates, respectively, 72 white, 83 colored; 14.96, 19.31: 16.90—52 white, 97 colored; 10.22, 23.74: 16.22—67 white, 85 colored; 13.17, 20.56. Preventable diseases and deaths therefrom in March: Typhoid fever, 3; malarial fever, 2; scarlet fever, 2; purulent infection, 4; tubercle of lungs, 20.

WASHINGTON.—Seattle, 115,000. Report for March, 1902. Deaths, 74—13 under 5; death rate, 7.68; deaths from consumption, 8; pneumonia, 10; typhoid fever, 4; scarlet fever, 1; smallpox, 1; cancer, 3.

WISCONSIN.—Milwaukee, 309,000. Report for March, 1902: Deaths, 320—110 under 5 years; death rate, 12.58; deaths from tubercular diseases, 31; pneumonia, 34; bronchitis, 31; diphtheria, 5; typhoid fever, 4; measles, 5; cancer, 15.

HAVANA.—271,363—72,492 colored. Report, March, 1902, shows the smallest number of deaths for any March since 1889. The minimum number for this month occurred in 1893, when there were 503 deaths; the maximum, in 1898, when there were 1,519 deaths. The death rate, 20.85, would be excellent for a city of Havana's size in any part of the world. Another month has passed without yellow fever, making six months since Havana had a single case. The table in the body of the report goes back to 1889, and if it went back 150 years, the character of the record would be the same. A reference to the table shows that in the years before 1900, only two months passed in Havana in which no deaths were reported. These months were May, 1899, and April, 1900.

The number of cases of other infectious and contagious diseases

is also small. Diphtheria caused one death, typhoid fever, 7; and leprosy, 1.

While malarial fevers are not required to be reported under the head of infectious and contagious diseases, and are not, therefore, individually cared for as is yellow fever, the general work for the destruction of mosquitoes would be expected to affect malaria also. The reports for the last year show this to be the case.

Our statistics show that we had in the neighborhood of 350 deaths from malarial fever in Havana in 1900. In 1901, the first year of the mosquito work, we had 151. This month, only 4. The results with regard to the malarial work in Havana are very important. Havana is the first city in the world, of any consequence, that has put to practical hygienic use the scientific knowledge with regard to the mosquito as a conveyor of disease, and it is the only place where we can measure the results with any accuracy. We have been at work just one year killing mosquitoes, and have spent in the neighborhood of $50,000, employing constantly an average of 100 men. The return from this expenditure is represented by the extermination of yellow fever which annually cost 400 lives, and the saving of about 250 lives per annum from malarial fever. This does not take into account the decrease in the number of sick who recovered and who do not show in the mortality statistics.

Attention is also invited to the large amount of work being done with regard to tuberculosis; in fact, the energies and attention of the Department are directed now principally against tuberculosis. It has always been the cause of the greatest mortality in Havana, as it is everywhere else. The question of yellow fever overshadowed all other things in our early work, on account of its bearing upon commerce and quarantines, but, as far as the question of saving human life is concerned, tuberculosis is more important.

The Department, under the able supervision of Major C. L. Furbush, has established a most comprehensive plan of campaign against this disease. A dispensary has been established, arranged in an attractive manner, and attended by an able corps of physicians, where the municipal poor are invited to apply for assistance. The report shows how successful it has been. Medical inspectors, who dwell very extensively upon the subject of tuberculosis, are systematically sent to tenement houses and tobacco manufactories. The great object of the Department has been to get the cases of tuberculosis located, and through the various measures used, we have now about 2,500 cases on our lists. These names are carded,

with residence and other data, and popular literature sent to them, explaining their disease, its communicability and the best manner of care. I believe that, if the system can be continued for four or five years, tuberculosis can be eradicated as yellow fever has been. We had 900 deaths last year from tuberculosis; placing the average length of a case of tuberculosis at three years, which is a longer period than is generally given to this disease, we would have 2,700 cases of tuberculosis on hand in the city. As we have at present 2,500 located and carded, it can be seen how thorough and successful our system of reporting has been. W. C. GORGAS,

Major, Medical Corps, U. S. A., Chief Sanitary Officer.

RECENT SANITARY PATENTS.

695399.—Water Purifying Apparatus; Isaac P. Kinsey, Chicago, Ill.

695083—Bath Cabinet; Charles M. Robinson, Toledo, O.

695535.—Exercising Machine; A. de Clairmont, Topeka, Kas.

695761.—Vaccination Shield; Josiah Peacock, Philadelphia, Pa.

696105.—Disinfectant; Abiel W. Nelson, New London, Conn.

696647.—Water Purifying Device; J. M. Alacomme, Brooklyn, N. Y.

697125.—Car Ventilator; Emanuel Anderson, Somerville, Mass.

697369.—Mode and Means for Ventilating and Flushing House Drains or Other Drains and Sewers; Isaac Shone and Edwin Ault, Westminster, London, England.

697085.—Smoke Preventer; John H. Hobart, Denver, Col.

697526.—Dust and Cinder Guard for Railway Coaches; J. S. McKenzie, Birmingham, Ala.

699032.—Water Supply and Filtering System; Lloyd E. Smith, Portsmouth, Ohio.

699635.—Cremator for Refuse; Robert Robinson, Portland, Ore.

699345.—Apparatus for the Treatment of Sewage; Andrew J. Provost, Brooklyn, N. Y.

699982.—Disinfective Device for Sink-drains; Jacob F. Seabury, Newark, N. J.

699655.—Apparatus for Purifying Water; William C. Clarke, Pittsburg, Pa.

BOOK REVIEWS.

HYDROGRAPHY, PART IV.: TWENTY-FIRST ANNUAL REPORT OF THE UNITED STATES GEOLOGICAL SURVEY, 1899-1900. F. H. NEWELL, Hydrographer in Charge. 4to, pp. 779, with numerous Maps and Plates. Washington: Government Printing Office.

It consists of three parts: First, on the results of measurements of the flow of various streams in different parts of the United States, the data being presented in diagrammatic form, as well as by statistical tables; arranged geographically, beginning in the extreme northeastern part of the United States and ending in the extreme southwestern. A number of papers prepared independently by the engineer officers of the army and other individuals or corporations, have been incorporated after necessary modifications to bring them into accord with the general arrangement and unification, all the facts adduced being included and credited to their sources. The great body of them, however, are the result of the field work of the hydrographers of the Geological Survey and from engineers in co-operating with them.

The second part is the report of stream measurements by N. H. Darton, giving the result of field work in the vicinity of the Black Hills in South Dakota and Wyoming. The detailed study of the geological conditions of the Black Hills area gives results of interest and value not only to the citizens of that vicinity, but to all throughout the country who are seeking an underground water supply.

Part third is by Willard D. Johnson, and treats of the high plains. It is the result of field work that began in 1896 in Western Kansas, and extending over portions of Nebraska, Colorado, Oklahoma and Texas. Altogether the report is a mine of information on the hydrography of the country and of great practical utility to all hydraulic engineers and others interested in the natural sources and courses of the water supply.

NEW KEY TO THE REPORTS OF THE UNITED STATES GEOLOGICAL SURVEY.—The United States Geological Survey has just issued, in Bulletin No. 177, a catalogue and index of its publications. This compilation has been made necessary by the increase in the number of the publications, since the last catalogue was published in 1893, and by the need of a convenient classification.

SEVENTEENTH ANNUAL REPORT OF THE BUREAU OF ANIMAL INDUSTRY FOR THE YEAR 1900. 8vo., pp. 642. Washington: Government Printing Office.

Opens with a summary of the Meat Inspection Division, showing the results of forty-five localities where it was made and 148 abattoirs and packing houses which received the benefit of it. The figures show a material increase in all classes of animals inspected, with the exception of hogs, of which the number is notably diminished. Of 999,554 microscopic inspections of pork, 968,405, or 96.88 per cent., were free from all appearance of trichinæ; 11,701 or 1.17 per cent., contained trichinæ-like bodies; 19,448, or 1.95, contained many trichinæ.

Of tuberculosis, tuberculin tests show that herds of cattle in the United States are far less seriously affected with tuberculosis than are those of European countries, notwithstanding the fact that none of our States seemed able to adopt and enforce systematic and thorough measures for the immediate control of this disease. The proportion of animals inspected in Europe indicates both the danger which threatens our herds, if the disease is allowed to progress here, and the importance of thorough measures to prevent the introduction of diseased breeding stock from abroad.

Special investigations and reports by D. E. Salmon, the chief of the Bureau of Animal Industry, and by the chiefs of divisions severally, follow, on the extent of animal diseases in the country and the measures practiced for their detection and extermination. Dairy products, poultry raising and wool production are comprehended; altogether a practical fund of knowledge intimately associated with preventive medicine, of interest to all sanitarians.

METABOLISM OF MATTER AND ENERGY IN THE HUMAN BODY, 1898-1900. By W. O. ATWATER, Ph.D., and F. G. BENEDICT, Ph.D., with the co-operation of A. P. BRYANT, M. S.; A. W. SMITH, M. S., and J. F. SNELL, Ph.D. Pp. 147. Bulletin 461, U. S. Department of Agriculture, A. C. True, Director. Washington: Government Printing Office.

The details of experiments in continuation of those published in previous bulletins of the work in co-operation with Storr's Experiment Station and Wesleyan University. As before explained, "the ultimate purpose of experiments with men in the respiration calorimeter is the study of some of the fundamental laws of nutrition, and the whole inquiry is based upon the principle that the chemical and physical changes which take place within the body, and

to which the general term 'metabolism' is applied, occur in obedience to the laws of the conservation of matter and energy." The experiments herein described have been evidently conducted with rigid scrutiny. The results are carefully tabulated, and the conclusions seem to be determinate. "It is safe to say that the results thus far obtained fall very little short of definite demonstration of the action of the law of the conservation of energy in the living organism."

PRINCIPLES OF SANITARY SCIENCE AND THE PUBLIC HEALTH WITH SPECIAL REFERENCE TO THE CAUSATION AND PREVENTION OF INFECTIOUS DISEASE. By WILLIAM T. SEDGWICK, Ph.D., Professor of Biology and Lecturer on Sanitary Science and the Public Health in the Massachusetts Institute of Technology, Boston; some time Biologist to the State Board of Health of Massachusetts. 12mo., pp. 388. Illustrated. Price $3.00. New York: The Macmillan Company. London: Macmillan & Co., Ltd.

A concise summary of the subject treated by an author practically familiar with its most important details. It is divided into three parts. Part I.—Health and disease, viewed from the standpoint of modern knowledge of the organism in relation with environment; the etiology of the causes of disease, ancient and modern; the germ theory of infectious diseases; the rise and influence of bacteriology; the sanitary aspects of the struggle for existence; the contention of the disease germs with their host when they have entered his body; the effect of the contention commonly being illness of the body, and in the triumph of the germs—death. On the other hand, by the use of antidotal substances, the germs may be paralyzed—*killed* and cast out, and the patient recovers; and, perhaps, rendered ever afterward immune to future illness from the same species of germ. Part II.—Infection and contagion, what they depend upon; their dissemination and control; the paths and portals by which they enter the body; dirt and disease; sewage, water, ice, milk, and certain uncooked foods, as vehicles of infectious diseases: how they become so, and how they may be prevented from so becoming. Part III.---Appendix—On some popular beliefs as to certain special and particular causes of disease; beliefs about dangers from sewer gas, bad smells, heredity, ice-cream poisoning, canned food dangers, etc.

Altogether a particularly commendable book to sanitary inspectors, engineers and physicians, and to general readers who would be well informed on the common conditions of infectious diseases and how they may be prevented.

THE DIAGNOSES OF SURGICAL DISEASES. By Dr. E. ALBERT, late Director and Professor of the First Surgical Clinic at the University of Vienna. Authorized translation from the Eighth Enlarged and Revised Edition by ROBERT T. FRANK, A. M., M. D. With Fifty-three Illustrations. 8vo., pp. 427. Price $5.00. New York: D. Appleton & Co.

Surely a most welcome book to the surgeon. For though there is no dearth of books on surgery—books that contain it all—there is none, to our knowledge, that so tersely presents knowledge absolutely essential to successful practice at the outset as this one does, doubtless because of its limited sphere, and for this it becomes a needful introduction to all the rest. It presents to the practitioner the problems of diagnosis at the bedside, regardless of theoretical classification of symptoms, and instead groups them according to their general resemblance. Thus the benefit of clinical teaching is most nearly attained; and, by the presentation of a large number of cases and the co-ordination of the symptoms, the advantage of the arrangement and its practical utility is apparent. Moreover, to the student, the book altogether is alike beneficial in laying the foundation of general knowledge by the grouping of its significant details.

MORPHINISM AND NARCOMANIAS FROM OTHER DRUGS: THEIR ETIOLOGY, TREATMENT AND MEDICO-LEGAL RELATIONS. By T. D. CROTHERS, M.D., Superintendent of Walnut Lodge Hospital, Hartford, Conn.; Editor of the "Journal of Inebriety"; Professor of Mental and Nervous Diseases, New York School of Medicine, etc. 12mo, pp. 351. Price $2.00. Philadelphia: W. B. Saunders & Co.

The purpose of this book prefatorily is "to give a general preliminary survey of this new field of psychopathy, and to point out the possibilities from a larger and more accurate knowledge, and to indicate the degrees of curability which are at present unknown," for implied default of medical colleges having "not yet introduced this study into their curriculum." It begins with a succinct history of opium and morphine, its chief derivative, their manner of use and dangers thereof. Who are morphinists, how they so become, etiology, symptomatology, diagnosis and treatment follow, comprehending about half of the book. The remainder is devoted to the consideration of the effects of "other drugs," including the relations of their use to crime and responsibility; the treatment and care of narcomaniacs from whatever cause.

Though based upon "over a quarter of a century of active treatment and care of narcomaniacs" and deductions from the writings of many cited authorities whose sphere of study, for the most part, has been similar to his own, some of the author's premises, as well as some of his conclusions, do not agree with observations from a different field of view. Inferentially, the alleged default in the curriculum of medical colleges is, that what is there taught on psychopathy does not entirely accord with what the author would have taught; perhaps more particularly with regard to the irresponsibility of drunkards and drug-addicted criminals. Nevertheless, the book is replete with knowledge of a subject that is not only unexceptional but of practical utility to all physicians, and which all medical students should acquire.

SAJOUS' ANNUAL AND ANALYTICAL CYCLOPEDIA OF PRACTICAL MEDICINE. By CHARLES E. DE M. SAJOUS, M. D., and one hundred Associate Editors, assisted by Corresponding Editors, Collaborators and Correspondents. Illustrated with Chromo-Lithographs, Engravings and Maps. Vol. VI. Large 8vo., pp. 1050. Philadelphia, New York, Chicago: F. A. Davis Co., Publishers.

"This volume is the last of the first series of the present work." —R. Z. Of all the medical annuals received at our table, this one is the most comprehensive. Literally cyclopedic in letter and detail; essays by distinguished authors, comprising the gist of volumes on the distinctive specialties of the medical profession, interspersed with wisely chosen excerpts from a universal field of current medical literature. The index to this concluding volume of the series is, in effect, an index to the medical sciences, indicating a complete book of reference on all subjects.

CONTEMPORARY LITERATURE.

THE KING OF SPAIN.

From an article on "The King of Spain and the Spanish Court," in "The Outlook" for May, by General Stewart L. Woodford, our former Minister to Madrid.

His life was studious and his training severe. He was not quite twelve. His education in books had to be forced and practically finished before the age at which young men are usually fitted to enter the *gymnasc*. He rose at seven each morning. After coffee he was with his tutors until noon. He had daily military

drill and took daily rides on horseback. He was trained especially in mathematics, of far higher range than young lads are usually given, and was kept at constant practice in the modern languages. On one occasion, when a reception to all the high functionaries, army, navy, clerical, and civilian, was held at the palace, just before the Lenten season began, all the Diplomatic Corps were present, being formed opposite the throne. He sat at his mother's right upon the royal dais. As the long train of officials swept by, saluting as they passed, he bore it patiently and recognized the salutes with such grave dignity that I was heartily glad when at last the boy grew tired and mischievously kicked away the cushion placed for his foot-rest. When the procession had passed, the Queen came to the line of ambassadors and ministers and greeted them in stately, ceremonious fashion. The young King accompanied her and gave brief salutation to each of us. I found that he had his mother's rare gift for language and spoke naturally and easily in French, German, Italian and English. His English pronunciation was simply perfect, and did great credit to the cultivated English lady who had long been his personal governess. He looked, as when I had seen him first at San Sebastian, pale, delicate, precocious.

LONGEVITY DEPENDENT ON PERSONAL HABITS.

Those who live to an extreme old age are probably the result of a long series of selected lives, further fortified by exemplary personal habits, like the Jews, who, for two thousand years, have been compelled to live in crowded quarters of cities, with a minimum of air and light, until nature's selective processes, together with their rigid adherence to the admirable sanitary code of Moses, have produced a stock that can endure almost anything with little apparent injury. The Ghetto in Rome was the healthiest quarter of the city, and at the present day the Jewish quarter of New York, the most crowded and, until recently, the dirtiest part of the town, has the lowest death-rate. Persons with such constitutions, being, in a large measure, proof against morbific influences, are generally injured only by their own excesses, and it will be found, as a rule, that centenarians have been persons of this class, who have seldom been ill in their lives, who have had the contagious diseases of childhood lightly, if at all, who have always been temperate in all things, light eaters and drinkers, slow to wrath, able to control their passions and emotions, and usually leading a placid, uneventful life. Such conditions can be brought about by sanitary

laws only as a result of long-continued teaching and pressure extending over many generations, and may not be perceptible in the race for a hundred years to come. Our first parents were driven from the Garden of Eden for fear they would become immortal, and their descendants have lost so much ground that only one out of millions is able to reach the physiological limit of life, which certainly should be one hundred years, and possibly one hundred and twenty.—From "Longevity in Our Time,' by Dr. Roger S. Tracy in the May "Century."

THE FRANCHISE IN VIRGINIA.

The Virginia plan adopts a principle that several other States have put into force, known as the "understanding clause," as a temporary expedient for a short period—that is to say, until January 1, 1904, local registrars may put on a permanent roll of voters all applicants otherwise qualified who are able either to read or to give a "reasonable" explanation of any section of the new Constitution when read to them; this in addition to taxpayers and to old soldiers or their sons. That the general purpose of this clause is to give an opportunity for enrollment to white voters, while excluding illiterate negroes, is not denied by any one. Yet it does not follow, as many people assert, that there is anything radically unfair in this plan. Generally speaking, the illiterate white man possesses greater political capacity than the illiterate negro. The important part of a measure of this kind is not the temporary but the permanent method that it introduces. The permanent plan in Virginia is to be a yearly poll tax of $1.50, besides which each applicant for registration must be able to write his application clearly and without assistance in the presence of the registrar. Quite regardless of any favoritism that may be shown to the white voters, the Southern franchise laws render an excellent service to the negro race when they require from the negro voters either educational or property qualification, or both. The ballot is of no value whatever to the negro who is not fit to exercise it. The existence of reasonable qualifications as to literacy and property furnishes excellent incentives to progress, valuable on all accounts and harmful on none. The best and wisest friends of the negro race are not worrying themselves at all about new Southern franchise laws. No Southern State has made provisions which exclude the negro of intelligence and property. The Virginia Constitution provides for an improved educational system and advanced methods of control over railroads and other corporations.—

From "The Progress of the World," in the "American Monthly Review of Reviews" for May.

CAPTAINS OF INDUSTRY.

A series which should have been named "The Enchantments of our Modern Aladdins," if considered solely from the point of view of romance, is begun in the May "Cosmopolitan." But these sketches possess as well a business interest equally for clerk and capitalist, for manufacturer, farmer and merchant. The man who would understand the drift of our news in finance and business must read these lives, so full of incident, of chance, of hard labor and marvelous success. As it is, the series receives only the commonplace name of "Captains of Industry." Each character is treated by a noted writer familiar with his subject.

A MODEL SCHOOL.

In Georgia the clubwomen are working against great odds, but with the energy and ability that characterize the modern Southern woman everywhere they are diligently at work raising money for the establishment and maintenance of a model school in the northern part of Georgia. It is designed to make the new school a place where woodcarving, weaving, drawn-work, crocheting, toy-making, pillow-lace making and other handiwork may be taught to provide village industries and profitable occupation for time not otherwise employed in farm life. The clubwomen will work in connection with the county school commissioners of the State, who are deeply interested in the plan. When this model school is established graduates will be sent all over the State as teachers.—From "Club Women and Club Life," by Helen M. Winslow, in "The Delineator" for May.

CONTENTED SUBMISSION.

You have probably heard of that rare old epitaph ending with "Submissive to the heavenly will, his wife keeps on the business still;" a fine development of this necrologic idea appears in the form of an obituary announcement in a foreign print:

"This morning was summoned away the jeweler, Siebald Illmaga, from his shop to another and a better world. The undersigned, the widow, will weep upon his tomb, as will also his two daughters, Hilda and Emma, the former of whom is married, and the latter is open to an offer. The funeral will take place to-morrow.—His disconsolate widow, Veronique Illmaga. P. S.—This bereavement will not interrupt our employment, which will be carried on as usual; only our place of business will be removed from —— to ——, as our grasping landlord has raised the rent."

THE PLANTING OF A TREE.

Wouldst thou upbuild a home where sweet wild lives are nested,
Glad with the sound of song, quick with the flash of wings—
Where the soft broods may rock, warm-housed and unmolested,
Deep in the leafy nooks, through all the changeful springs?

Or wouldst thou rear an arch of noblest grace and splendor,
Lifted in air and light, shaped by the sun and storm,
Moved by the wandering wind, swayed by each influence tender,
Yet by the hand of life molded to steadfast form?

Wouldst thou make day more fair, and night more rich and holy,
Winter more keenly bright, and summer's self more dear—
Grant the sweet earth a gift, deep rooted, ripening slowly,
Add to the sum of joys that bless the rounded year?

Go, then, and plant a tree, lovely in sun and shadow,
Gracious in every kind—maple and oak and pine.
—By Marion Couthony Smith, in May "St. Nicholas."

CONCERNING PROCTOR'S THEATRES.

The introduction of full orchestras at three of his New York City theatres has added zest to the entertainments and the programmes of intermingled dramatic and vaudeville numbers are greatly enhanced thereby.

The souvenirs distributed at the daily matinées are attracting great throngs of lady patrons to the One Hundred and Twenty-fifth, Fifty-eighth Street and Newark theatres. Pin trays bearing photographs of Adelaide Keim, Mabel Montgomery, Edna Archer Crawford and Beatrice Morgan, the leading ladies of the Proctor Stock, and of Frederic Bond, general stage director, are now being distributed.

Continuous vaudeville will be presented at the Twenty-third Street for several more weeks, and the Fifth Avenue will keep open all summer, presenting the customary bills of dramatic and vaudeville interludes in continuous performance.

Mr. Bond and Miss Keim will head the Proctor Stock Co. which opens the summer season at Proctor's, Albany, at an early date. The Stock Co. will have possession of the Fifty-eighth Street and the One Hundred and Twenty-fifth Street all summer, and Proctor's, Montreal, will, as usual, keep open uninterruptedly, the Stock Co. having sway, with revivals of the best successes of the New York dramatic season.

SANITARY SCIENCE.

A SYNOPSIS OF SANITARY SCIENCES AS REPRESENTED IN THE SANITARIAN, ALPHABETICALLY.*

By The Editor.

Elkinton, Thomas, Heating and Ventilating Public Buildings, xxiii, 306.

Eller, Max F., Medical Jurisprudence of the Romans, vi, 400.

Ellis, Hon. E. J., and the National Board of Health, S. E. Chaillé, x, 193.

Elmira Reformatory, Charles Dudley Warner, xxxiii, 473; The New Superintendent, xlvi, 443.

Elmira's Epidemic of Typhoid Fever, xxxvi, 457.

Elsner, H. L., Vagaries of Croupous Pneumonia, xxxix, 29; Treatment of Asthenia, in Pneumonia, xliii, 29.

Embalming, xxiii, 65.

Emery, Z. T., Prevention of Cholera, xxix, 289; Reappointment of, Health Commissioner, xxxvi, 189.

Emetic, A Living, xxv, 48.

Emigrants, Assisted, xi, 427.

Emigrants, Existing Methods of Dealing with, C. N. Hewitt, xxvii, 512.

Emigrants, Sanitary Inspection of at Points of Departure, xxix, 270.

Emigration, Excessive, and the Unsanitary Condition of Emigrant Vessels, xxi, 507.

Emigration, How Smallpox is Spread by, x, 174.

Emigrant Passengers, Protection of, x, 509.

Emigrant Ships, Deadly, xix, 70.

Emotion, Cured by, xxv, 192.

Employment and Health, Charles Stephenson, xxx, 426.

Empress, The Dowager, and the Anti-Foreign Movement, xlv, 282.

Empyema, Surgical Treatment of, xxvii, 350; Munro, xliii, 30.

Encaustic Tiles, The Sanitary Bearings of, v, 468.

Encephalocele Successfully Removed, xxiv, 479.

Endemann, H., Warming and Ventilation, ii, 20; Peroxide of Hydrogen, xxxiv, 165.

*Continued from previous number.

Endemic and Epidemic Diseases, J. Jones, xix, 211.
Energy, Human, Increasing, Tesla, xlv, 92.
Endo-Carditis, Chronic, xxiii, 182.
Endometritis, Chronic, xxv, 270; Tollemex, xlvi, 154.
Enemy in the Air, A. L. C., vi, 253.
Enforcement of Quarantine, S. H. Shoppin, viii, 80.
Engadine, The, and Dovos, D. B. St. J. Roosa, xxi, 314.
England's Estimate of Public Health, iii, 44.
England, Village Life in, Some Conditions of, xlii, 37.
England and Wales, Mortality Statistics of, xi, 524.
English Cities, Census of, xlvii, 159.
English Climate and Character, x, 425.
English Ivy, iii, 267.
English, An Italian Hotel Keeper's, xi, 406.
English as She is Wrote, G. H. Westley, xxi, 241.
English Speaking People, Increase of, xxxvii, 558.
Engman, M. F., Infection in the Toilet, xlii, 111.
Enigmas of Life, J. H. Dana, ii, 496.
Ensilage for Dairy, xiii, 25.
Enteric Fever, Discussion on, xxvii, 537.
Enteric Fever, Water-borne, The Prevention of, Parkes and Rideal, xlvi, 395.
Entero-Colitis, Acute, Treatment of, Alexander Briggs, xxxix, 53.
Entero-Colitis and Dysentery, xlv, 146.
Enthusiast, An, Dr. Parkhurst, xxxvi, 95.
Entombment, Sanitary, C. R. Treat, xxiii, 519.
Envelope, Lick the, xliv, 60.
Epidemic, What Constitutes an, Benj. Lee, xlv, 508.

EPIDEMIC DISEASES, THEIR ESSENTIAL CONDITIONS AND THE MEANS NECESSARY FOR THEIR CONTROL. A. N. Bell. . . . "It can hardly be regarded as any longer an open question in the United States that it is the first duty of every physician, on recognizing a case of epidemic disease, to report it to the sanitary authority. But it is the misfortune of some rare communities to have individuals in their midst who, by resistance to the practical application of this knowledge, abet and encourage the existence of epidemic diseases under the pretext of maintaining private rights. To meet possible obstacles from this, or any other, cause, it appears to your reporter eminently proper that the duty of reporting epidemic diseases, and vaccination for the prevention of smallpox, should be placed upon the same plane as all other duties which

have for their object the support and promotion of the public welfare—it should be made obligatory: *Salus populi suprema est lex.* . . . "In populous communities of civilized people everywhere in recent years, there are various organizations under laws and ordinances for the preservation of the public peace and the protection of property. Police and fire prevention organizations exist for the arrest of thieves, highwaymen and incendiaries; and any person detected in being privy to the acts of such depredators is justly held as *particeps criminis.* Moreover, there are United States laws for the inspection of steam boilers, for the prevention of overcrowding of passenger vessels, etc., by which doubtless many lives are saved. But as compared with the subject at issue: Is there any member of the American Public Health Association, is there any person worthy of the name of physician; aye, is there any intelligent person throughout the whole extent of this country who does not know that the waste of human life due to the insufficient obligations for the prevention of epidemic diseases is many times greater than for all other causes combined? And is there any one who, in the face of such knowledge, would not cheerfully acquiesce, and heartily co-operate in the enactment of such laws and ordinances, national, State and local, as shall have for their object the saving of 100,000 lives and twenty times as many cases of illness annually in the United States? If there are, indeed, any such persons, they are dangerous to the communities in which they live; more dangerous than the incendiary, the thief or the highwayman, in the same proportion as the fatal epidemic diseases with which they allay themselves are fraught with danger to the communities which tolerate them, more than all the other enemies of mankind put together. . . .

"The conditions under which epidemic diseases exist and may be assailed." . . . (At meeting of the American Public Health Association, 1884,) xiii, 493.

Epidemic, Definition of, U. O. B. Wingate, xliii, 528.

Epidemic Fund, What Should be Done with the, xi, 203.

Epidemic, A Fever, from Drinking Sewage, C. E. Kurz, xviii, 221.

Epidemic Diseases in Albany and Vicinity, J. D. Craig, xxvii, 212.

Epidemics, Atmospheric Hypothesis of, xxviii, 549.

Epidemic, An, and How It Was Stamped Out, Hygienic Precepts, Prof. F. H. Hamilton, xxxvii, 193.

Epidemics from a Chemical Standpoint, R. O. Doremus, vii, 308.

Epidemics, Management of, in Charleston, S. C., H. B. Horlbeck, xiii, 484.
Epidemics, Movements of, Dr. Guy, x, 605.
Epidemics, Management of, in a Northern Latitude, W. K. Newton, xiii, 451.
Epidemics and National Quarantine, Walter Wyman, xix, 447.
Epidemics Related to Climate and Other Peculiarities of, R. J. Nunn, xix, 233.
Epidemics, International Regulation of, Sondenegger, xx, 309.
Epidemics,Protection Against, xxiv, 455.
Epidemics, Causes of, Solomon Smith, xxxiv, 93.
Epidemics, Mental, Past and Present, Boris Sidis, xxxvii, 478.
Epidemics, The Camp, Bell, xli, 256.
Epidemics, Suppression of, Walter Wyman, xliv, 481.
Epidemiological Association of Maryland, i, 184, 285.
Epidemiological Society, x, 649.
Epilepsy, Alkaline Bromides in, Laborde, xliv, 237.
Epilepsy, Clinical Study of, M. Voison, xl, 246.
Epilepsy and Epileptics, xxv, 275.
Epilepsy, Disturbance of Sleep in, Nevsky, xxxix, 352.
Epilepsy, Medical Treatment of, de Fleurey, xl, 534.
Epilepsy, Treatment of with Trional, xxxvi, 531.
Epileptic Colony, The Craig, xliv, 157.
Epileptics, A Colony for, Sydney Brooks, xliv, 381.
Epileptics, Provision for, W. P. Letchworth, xxxiii, 23.
Epileptics, the State Colony for, xxxii, 562.
Epileptics, Preventive Treatment of, Lemoine, xxxviii, 58.
Epileptics, Toxicity of the Sweat of, MM. Mairet and Delthiel, xlvi, 155.
Epileptic and Feeble-Minded Children, xxvii, 545.
Episcopal Longevity, v, 230.
Epistaxis, to Arrest, xliii, 51.
Epistolary to My Wife, R. H. L., ii, 330.
Epitaphium, Chymicum, Dr. Godfrey, xii, 535.
Epithelioma of the Uterus and Vagina, Treatment of, M. Guinard, xxxvi, 525.
Erdmann, H., Helthin, A New Means of Testing Drinking Water, xlvi, 120.
Erie, Pa., Cow Disease in, v, 522.
Ernst, H. C., Bacillus of Tuberculosis, xiii, 465.
Errata, V., 336; That First Dose, on being attacked with Yellow Fever, xli, 256.

Error, A Comma-cal, xli, 255.
Errors in Sanitary Efforts, iv, 340.
Errors in Vital Statistics, iv, 177.
Erysipelas and Acute Lymphangeitis, Identity of, xxiii, 280.
Erysipelas, Treatment of, xxv, 87; Is It Contagious? xxix, 241; Seasonal Influence in, J. M. Auders, xxxi, 37; Treatment of, MM. Chautemepe and Saintas, xxxvi, 436.
Erysipelas, The Blood in, xlii, 439.
Erysipelas and Streptococcus, M. Courmont, xl, 159.
Erythema, Infectious, M. Galliard, xxxviii, 446.
Erythema, Papular, Following Vaccination. G. H. Fox, xxxvi, 423.
Eskridge, J. T., Nervous and Mental Diseases Observed in Colorado, xxvi, 163, 213.
Espada, J. M., The Malignity of Paludism in Cuba, xliii, 111.
Ess and Esses, iv, 343.
"Essentials," The, For the Protection of the Public Health in Brooklyn, viii, 376.
Essex Water Supply, vi, 287.
Ether, Chloroform and Nitrous Oxide Gas, xxiv, 88.
Ethics in Journalism, iv, 143.
Etiology of Enteric Fever, J. L. Cabell, v, 326.
Etiology of Yellow Fever, Walter Read, xlv, 495; Report of Committee on, 496; xlvi, 499.
Eucalyptus, The, Prof. Samuel Lockwood, vi, 235.
Eucalyptus, Experiments with in the Campagna of Rome, iv, 67, 428.
Eucalyptus, Proposed Planting in Cuba, xliii, 366.
Eucalyptus and Poppy, The Sanitarian's Emblem, iv, 228.
Eucalyptus, The, in California, v, 352; vii, 255.
Eucalyptus as a Disinfectant, xxvii, 280.
Euphoric Medication, M. Ferrand, xliii, 533.
Europe, A Short Trip to, xxxii, 94.
Europe, Sanitary Brushwood, Picked up in, C. W. Chancellor, xxxv, 97, 289; xxxvii, 16.
European Life in India, iii, 304.
Europhen, xxvii, 362; As a Substitute for Iodoform, xxix, 540; xxxiv, 172; in Rhinology, xxxi, 267; xxxii, 552; Gynecological Uses of, Arthur Strous, xxxiii, 372.
Eutropin, Therapeutic Value of, Suppan, xlvi, 59.
"Every Tree Is Known by Its Fruits," xi, 732.

Evidence of Insanity in the Brains of Criminals, E. C. Spitzka, x, 406.
Evolution, xliii, 55, 186.
Evolution of a Third Eye, xlvii, 187.
Evolution, A Great Authority on, Edward Drinker Cope, Prof. Osborne, xxxix, 562.
Evolution, The Method of and the New Theory of Heredity, H. W. Conn, xlvii, 39.
Evolution of a National Health Service, Bell, xxxvi, 346.
Evolution, Vegetarianism, xlvii, 265.
Evolution and Teleology, J. A. Zahm, xl, 479.
Ewing, W. A., *et al.*, Sanitary Condition of New York, xxxii, 219.
"Ex"..."Sel," xxii, 265.
Examination of Blood in Phthisis, xxxiii, 525.
Examination of Milk Supply for Tuberculosis, F. O. Donohue, xxxiii, 486.
Examination in State Medicine, iii, 63.
Examinations for Junior Physician, New York State Hospital, xxvii, 96.
Examiners in Lunacy, Legislative Bill for, i, 570.
Examining and Cramming, F. Harrison, xxii, 337.
Excerpts on Health, iv, 370, 560.
Excessive Death-rates Among Children, Stephen Smith, iii, 289.
Excess, The Restraining Mercy of, Thos. P. Wood, xxvii, 376.
Excreta, The Disinfection of, Geo. M. Sternberg, xxvii, 302.
Exercise, Dryden, xxiv, 199; Exact Dosage in, H. L. Taylor, xxxvi, 379.
Exhibition of Sanitary Appliances, vii, 331.
Exhibit, Hygienic, for the Paris Exposition, xliv, 257.
Exhibition, A Cruel, Stopped, xlii, 451.
Experienced Advertisers, viii, 93.
Experiments Upon Animals, The Altruism of, W. W. Keene, xliv, 143.
Experts in Legal Proceedings, James Appleton Morgan, v, 268.
Expert Testimony, The Case of, F. H. Darby, xix, 44.
Explosions, Boiler, Chas. H. Haswell, xi, 643.
Explosions and Deaths in Mines, E. F. Peck, xii, 468.
Explosive Dust, vi, 356.
Exposition of Hygiene, Maritime Security and Fishery at Ostend, xlvii, 190.

Exposition of the Mechanical Means for the Protection of Labor, xxv, 186.
Express Charges, to Regulate, xlii, 88.
Expressmen and Smallpox, xxxiv, 245.
Eye, the, A Microbe-Filaria in, xxx, 157.
Eyes, Care of the, xliii, 190.
Eye Diseases, Subcutaneous Injections of Sublimate in, xxx, 337.
Eyes, How Children's Should be Treated, Frank Allport, xxxix, 53.
Eye-Mindedness and Ear-Mindedness, xlii, 188.
Eye Sees, in Reading, How the, xlvii, 479.
Eyesight, Its Care during Infancy and Youth, L. W. Fox, xxix, 401; in Middle Life and Old Age, xxx, 28.
Fable of the Fly on the Hub of the Wheel, xxi, 360.
Fabricus, F. W. A., Rational Theory of Alcohol, xxxv, 398.
Face Bleach, Madam A. Rupert's, xxvii, 370.
Factory Acts and Factory Operations of England, iv, 259.
Factory and Mercantile Establishment Law, xxxvii, 450.
Factory Heating, xliv, 115.
Facts Concerning Hot-Air Furnaces, J. P. Battershall, vii, 492.
Fairly, William, Pneumatic System of Small Sewerage Works, xxxiv, 511.
Faith Healing, xviii, 535.
Fake Bill, More about that, xl, 161.
Fall, Prof. D., Disposal of Waste and Garbage, xxvii, 505.
Fallacies About Brain Work, William Matthews, xlvii, 496.
Fallacious Notions Concerning Stationary Death-rates, viii, 37.
Fallagant, L. A., Mild Winter as Influencing Coming Summer, viii, 37.
Fame, The Flower of, xlii, 477.
Fame Kept Alive by Flowers, xli, 96.
Fame, Such Is, xlvii, 384.
Family, A Large, xi, 681.
Famine, Plague and Empire, xlv, 73.
Famine, The Cause of, xlv, 94.
Fahrenheit, To Convert to Centigrade, xxxix, 16.
Farm Life, New Possibilities of, xxxi, 477.
Farnsworth, P. J., Sanitary Relations of Geography and Topography, xii, 206.
Farquharson, R. J., Hospitals for Contagious Diseases, xii, 93; Typhoid Fever of America, Its Nature, Causes and Prevention, 26; Typhoid Fever in the Cities of the U. S., 312; Lep-

rosy in the United States, xiii, 3; Bacillus Tuberculosis, a Hundred Years Ago, 375.
Farr, William, M.D., F.R.S., D.C.L., with Portrait, v, 253.
Farrar, Archdeacon, On the Drink Question, xxx, 414.
Farrington, J. M., Defective Drainage, i, 556.
Fashion, i, 252, 429; And Its Penalties, Prof. Atlee, iv, 160.
Fassett's Bureau of the Medical Press, xxviii, 480.
Fasting, The Hygiene of, xlvii, 352.
Fat, Determination of in Milk and Cream, xxii, 574.
Fat Producer, Indolence, as a, xxxix, 357.
Fatal Effects of Impure Water, A. R. Wright, x, 28.
Fatal Occupation—Fork Grinding, vi, 359.
Fatal Steam-Boiler Explosion, v, 114.
Father Denza, xxxiv, 368.
Fatigue, Mental, in Schools, xxxviii, 202; Thorndike, xliii, 289.
Fauvel, M., Probabilities of Cholera in Europe, xi, 589.
Faulty Menu of Boarding Schools, H. P. Fowler, v, 481.
Fayer, Sir Joseph, Epidemics, viii, 391.
Feast, A, O. B. Merrill, xl, 249.
Featherstonhaugh, J. D., Albany's Water Supply and Her Neighbors, xliii, 318.
Fecal Matter and Urine, A New Absorbent and Deodorant for, xxi, 360.
Fee, A Good, xlv, 349.
Fee, W. T., The Plague in Bombay, xliv, 227.
Feeble-Minded Children, vii, 478.
Feeble-Mindedness, The Prevention of, xliv, 156.
Feeding of the Child, Imperfect, xxxix, 380.
Feeding Infant, Symposium on, Forchheimer, *et al.*, xxi, 111.
Feeding by Rectal Injections, xlv, 64.
Fees, Medical, in Russia, xxxv, 293.
Feet, Hygiene of the, xii, 177; Short Study of, and of a Shoe that will not Pinch, Benj. Lee, 493.
Feet, Lame, to Prevent and Cure, xxi, 383.
Fellow Travelers, iii, 39.
Fellows' Compound Syrup of Hypophosphites, xxxvi, 251.
Felts, Ancient and Modern, S. N. D. North, xxviii, 524.
Female Chemist, v, 371.
Females, Artifices Employed by, Verchere, xxxv, 337.
Female Crusoe, A. B. Stuart, viii, 400.
Feminine Electricity, Gilbert, xxxvi, 379.
Fencing, from a Hygienic Standpoint, xxxv, 189.

INDEX.

Alcohol, a Dangerous Food, 334.
America's Position in the Scientific World, 264.
Angell, E. C., The Best Literature on Massage, 489.
Antagonism of Forces, 200.
Antitoxin, Investigation Aftermath, 347.
Antitoxin, Tetanus, Vaccination and, 32, 48.
Army Canteen System, Committee to Investigate, 536.
Army, the, Health of, 54.
Army, the, Intemperance and Disease in, 420.
Arrhenal as a Vehicle for Arsenic, 411.
Arthropathies and Dysentery, Claude, 125.
Associations, Conventions, Etc.:
American Climatological Association, 464; American Congress of Tuberculosis, 53, 258, 356, 422; American Public Health Association, 536; American Medical Association, 537; International Sanitary Congress in Havana, 53; International Sanitary Congress in Paris, 52.
As Well Off This Side of the River as on the Other Side, 367.
Astragalus, the, Luxation of, Walther, 43.
Athleticism and the Rhodes Standard, 525.

Babel and Bible, 462.
Baldwin, H. B., New Jersey's Public Water Supply, 315.
Barber Shop and Shaving Soap in the Netherlands, 497.
Bashore, H. B., The Building of a House from a Sanitary Point of View, 413.
Baths, Public, More Needed, 325.
Bell, A. N., Sanitary Science, 82, 172, 273, 369, 465, 561.
Bell, C., The Legal Struggle with Tuberculosis, 298.
Biological Analogies, Danger of Using, in Reasoning on Educational Subjects, Harris, 392.

Book Reviews:
Agricultural Department Report, 263; American Journal of Medical Sciences, 74; American Year-Book of Medicine and Surgery (Gould), 361; Annual Cyclopædia of Practical Medicine (Sajous), 556; Atlas of Clinical Medicine and Surgery (Hutchinson), 159; Bionomics (Beger), 362;

Climatology of Health Resorts (Weber), 360; Connecticut Medical Society's 109th Annual Meeting, 457; Cow Pea, The, 458; Delineator, The, 164; Diagnosis of Surgical Diseases (Albert), 555; Failures of Vegetarianism (Miles), 456; Hydrography, Part iv, 552; Hygiene of the Dwelling, (Bertin-Sans), 261; Index Catalogue of the Library of the Surgeon-General's Office, U. S. A., 73; International Medical Annual (Treat), 455; Kant's Prolegomena to Any Future Metaphysics (Carus), 364; Key to Reports of U. S. Geological Survey, 551; Liebnitz's Discourses on Metaphysics, 262; Manual of Childbed Nursing (Jewett), 457; Metabolism of Matter and Energy in the Human Body (Atwater), 553; Monist, The, 79; Morphinism and Narcomanias (Crothers), 555; Municipal Engineering and Sanitation (Baker), 157; Nil Desperandum (Angell), 158; Our Dumb Animals, 232; Outlook, The, 79, 270, 366; Physiologic Therapeutics (Cohen), 360; Principles of Hygiene (Bergey), 73; Progressive Medicine, 74, 454; Report of Bureau of Animal Industry, 553; Report of Commissioner of Education, 263; Report of Director-General of Public Health of Canada, 458; Review of Reviews, 366; Sanitary Science and the Public Health (Sedgwick), 554; Sewage and the Bacterial Purification of Sewage (Rideal), 454; Smallpox (Fox), 365; Smithsonian Institution Report, 73; Syphilis (Bulkley), 364; Trichinosis in Germany, 157; Under the Southern Sun (Heyer), 359; Weather Bureau Report, 263; Woman's Life, The Four Epochs of (Galbraith), 156.

Bread, New, Indigestible, Why is? 517.
Brevet Rank for Gallant Conduct, 419.
Business Session, First, 512.
Captains of Industry, 559.
Car Sanitation, 50.
Carbonic Acid and Sulphurous Acid, 522.
Carnegie Institution, The, 265.
Cars, Street, The Sanitary Condition of, in New York, Soper, 502.
Catarrh, Nasal, Treatment of, Underwood, 127.
Cesspools, Asphyxia from Gas in, Harriot, 409.
Charities Law, State, The New, 332.
Child's Good Looks, The, 367.
Choir Boys, 463.
Cholera in the Philippines, 450.
Clary, G., A Study of Health Reports, 494.

Coffee Cigarettes, 417.
Cold, Resistance of Living Organisms to, D'Arsonal, 103.
Conn, W. H., Antagonism of Forces, 200.
Consumption, New Cures for, 335.
Consumption, Open-air Treatment of, in Germany, 201.
Consumptives Barred, 49.
Consumptives, Extreme Measures for, Guerney, 293.
Consumptives, Provision for, 327.
Corbally, T. P., Medical Excerpt, 43, 123, 320, 409, 520.
Corset, The Passing of the, 335.
Corsets, Malformations Caused by, Harny, 125.
Cotton Mills, 267.
Cuba in Winter, 164.
Crandall, F. M., The Malnutrition of Tuberculosis, 513.
D'Arsonal, M., Resistance of Living Organisms to Cold, 103.
December Woods, North, 78.
Deformities of Occupation, Prevost, 121.
Dental Surgeons, Contract, U. S. A., Status of, 420.
Diet, Sir Henry Thompson on, 22.
Diet, Slim, 453.
Diphtheria, Serotherapy and, 521.
Dirt Eaters, 154.
Disease, Physical Agents in the Treatment of, 492.
Diseases, Preventable, in the State of New York, Hopkins, 289.
Disinfection Apparatus *vs.* Vaccination, 257.
Disinfection of Dwellings, 496.
Disinfection Method, The Schering, 322.
Doctors, Young, Need of Haste, 439.
Eccentricity and Bravado, 237.
Ecthol, 522.
Eddyopaths and Osteopaths, 337.
Education in the Philippines, 460.
Esculapius, The Tomb of, 31.
Faith Murderers, 233.
Faits Nouvaux, 520.
Fashions of To-day, 271.
Floods, Sanitary Measures to be Adopted After, 437.
Food Preservatives, Borax and Boric Acid as, 536.
Food, Pure, and Pure Drugs Bill, 385, 535.
Foods, Impure, Sellers of, in New York, Fined, 416.
Forgot Her Prayers, 314.
Franchise, The, in Virginia, 558.
Fungoid Growths, Destruction of, 297.

Gelatine in Alimentation, Lombard, 321.
Genius, The Determining of, Lombroso, 218.
Guaco, Physiological Action of, 520.
Guerney, W. C., Extreme Measures for Consumptives, 293.
Guernsey, R. S., Utilitarian Principles of Taxation and Their Relation to Altruism, 24, 154, 209, 487.
Gun-Powder Stains, Removal of, Corbett, 412.
Harris, W. T., Danger of Using Biological Analogies in Reasoning on Educational Subjects, 392.
Havana's Wonderful Improvement in Healthfulness, 349.
Health, Compulsory Education and, Poland, 303.
Health Department, Chicago, Gold Medal Awarded to, 441.
Health Department, the City, New Appointments in, 142.
Health Reports, A Study of, Clary, 494.
Health Service, National, 128.
Health Service, United States, 133, 333, 418.
Health Studies, Cosmopolitan, Oswald, 49, 97, 213, 309, 399, 481.
Heart, the, Influence of Nutrition on, Prevost, 44.
He'll Be Here Presently, 524.
His First Picture Book, 75.
Homœopathy non est, 268.
Hopkins, H. R., Preventable Diseases in the State of New York, 289.
Horse, Dog and the Man, Kiser, 307.
Horse Meat, Sale of, Vienna, 52.
Hospitals, Contagious Diseases, Apportionment for, 418.
House, a, The Building of, from a Sanitary Point of View, Bashore, 413.
Hygiene Among the Negroes, 343.
Hygiene, Study of, Recommended for West Point, 51.
Illiteracy, White, in the South, 439.
Impaludism, Treatment of, Gautier, 321.
Insanity Increasing in Ontario, 336.
Intolerance, The Wrong of, 461.
Kings County Medical Society Memorial Meeting, 39.
Kiser, S. A., Horse, Dog and the Man, 307.
Knopf, S. A., Unsolved Problems in Tenement House Life, 104.
Language, Our, in the Orient, 162.
Language, Our Queer, Sabin, 271.
Larynx, Artificial, Le Dentu, 44.
Le Hardy, J. C., Reminiscences of Yellow Fever in Savannah, 202.
Lemonade Without Lemons, 413.
Leprosy—A Bill for the Prevention of, 317.

Leprosy, Yellow Fever and Tuberculosis, For Prevention of, 43.
Libraries, The Age of, 165.
Lick the Letter, 536.
Life, Average Length of, 153.
Life, Efficient Method of Restoring, 462.
Life, Rural, The Improvement of, 458.
Lindsley, C. A., Farm Sanitation, 193.
Lombroso, C., The Determining of Genius, 218.
London, the City of, Latest Census of, 353.
Longevity Dependent Upon Personal Habits, 557.
Longevity in England, 452.
Longevity of the Popes, 451.
Manila Contending Against the Plague, 352.
Manila Peculiarities, 161.
Marine Hospital Service, the, Hygienic Laboratory for, 51.
Massage, The Best Literature on, Angell, 489.
Martinique Volcano, The, and Calamitous Mortality, 529.
Medical Corps of the Navy, Proposed Increase of, 334.
Medical Excerpt, Corbally, 43, 123, 320, 409, 520.
Medical Knowledge Taught by Theatrical Plays, 80.
Medicine, State, in New York, 328.
Medicines, Experiments on the Antagonism of Morel, 322.
Milk, Bacteria in, Conn, 200.
Milk Flour in Sweden, 355, 518.
Ministering Angels, 163.
Mixed, 81.
Morphine, the Effects of Prize for an Essay on, 154.
Mortality and Morbidity Reports and Reviews, 54, 136, 245, 338, 440, 538.
Mosquitos, Disinfection for, 439.
Murder as an Art, 269.
Naylor, W., River Pollution and Sewage Purification, 116.
Neck, the, Wound in, Mathieu, 125.
Negro Insane, Neglect of, 251.
Negro, The, in the Far South, 76.
Negroes, the, Hygiene Among, 343.
Nerve Impulse, the, Nature of, 365.
Nervousness Gave His Words a Twist, 324.
New York's New Board of Health, 46.
Nobel Prize for the Founder of the Red Cross, 42.
Nocard, E., Tuberculosis, 405.
Nordach Ranch, 60.
North, J. N., The December Woods, 78.

OBITUARY:
Delavan Bloodgood, M. D., U. S. N., 421.
Old Oaken Bucket, The—Modernized, 445.
Osteopathic Eligibility to Membership of Iowa State Board of Health, 445.
Osteopathy, 236.
Oswald, F. L., Cosmopolitan Health Studies, 97, 213, 309, 399, 481.
Owlish Observations, 463.
Park, National, A Great Eastern, 75.
Pathological Exhibit, 537.
Pearline, 501.
PERSONAL:
Dunant, Henry, 526.
Green, W. D., M. D., 52.
Surgeon-General P. M. Rixey, M. D., 130.
Surgeon-General Van Reypen, M. D., 129.
Phagocytosis and Chemiotaxis, New Light on, 523.
Philippines, The, 161.
Physician, The, and the Public Schools, Wood, 206.
Physicians, Do, Always Protect the Rights of Others? 243.
Pin Scratch, a, Death From, 153.
Plague Experts, California, 441.
Plague Infection by Ship-borne Rats, 256.
Plague, Manila Contending Against, 352.
Plague, The, 521.
Plague, The, in San Francisco, The Truth About, 532.
Plague, The, of 1656 and Now, 71.
Plans to Keep the City Clean, 418.
Pneumothorax Designedly Produced, Delagénière, 123.
Poland, A. B., Compulsory Education and Health, 303.
Popes, the, Longevity of, 451.
Potato Disease in France, 45.
Practitioner, A Centenarian, 154.
Preventive Medicine, Prizes for Essays on, 238.
Prevost, M., Deformities of Occupation, 121.
Proctor's Theatres, 81, 164, 271, 368, 560.
Ptomaines in Canned Oysters, 50.
Puddukkottai, Progressive, 528.
Pupil, the, Disturbance of, in Aortic Lesions, Vaquez, 320.
Quacks, Legal, and Medical Quacks, 511.
Quarantine Regulations, International, 130.
Quotation, Correct, 80.

Radiography, Utilizing, Bilhaut, 43.
Raines Law Hotels, 267.
Religious Life in America, 79.
River Pollution and Sewage Purification, Naylor, 116.
Sanatorium, Battle Creek, Burned, 336.
Sanatorium Plans, Prize for an Essay on, 155.
Sanatorium, State, for Rhode Island, 69.
Sanatorium, The Rocky Mountain Industrial, 60.
Sanitary Patents, Recent, 272, 413, 551.
Sanitary Science, Bell, 82, 172, 273, 369, 465, 561.
Sanitation, Car, 50.
Sanitation Farm, Lindsley, 193.
Sciatic Pain, Davis, 323.
School, A Model, 559.
Smallpox, Authority to Prevent Murder by, 236.
Smallpox, Doctor's Bill in Case of, 253.
Smallpox Epidemic in London, 352.
Smallpox, How Cleveland was Rid of, 436.
Smallpox in London, 72.
Smallpox in New Jersey, 254.
Smallpox Reports, 257.
Smallpox Therapy, 322.
Smallpox, To Circumvent, 248.
Soap and Substitutes for Soap in Syria, 500.
Soper, G. A., The Sanitary Condition of Street Cars in New York, 502.
Spine, the, Small Bullet in, Loison, 126.
Spitting in Public Places, Fined for, 417.
Statistics, Vital, Uniform System of, 353.
Sunflower Seed Oil, 52.
Spain, The King of, 556.
Submission, Contented, 559.
Sulphurous Acid and Carbonic Acid, 522.
Syphilis and Gonorrhœa, 126.
Taxation, Utilitarian Principles of, and Their Relation to Altruism, Guernsey, 24, 154, 209, 487.
Teachers Must be Vaccinated, 68.
Tenement House Life, Unsolved Problems of, Knopf, 104.
Tetanus Court, the, Findings of, 347.
Tetanus, Vaccination and Antitoxin, 32, 48.
Toxines, Destruction of, Sieber, 410.
Training is Everything, 491.
Tree, a, The Planting of, 560.

Tuberculosis, Nocard, 405.
Tuberculosis Immigrants, 256.
Tuberculosis, Latent, Kranz, 411.
Tuberculosis, Malnutrition of, Crandall, 513.
Tuberculosis, Milk Drinking and, Biedert, 127.
Tuberculosis of Alimentary Origin, Arlong, 124.
Tuberculosis, Renal, Alburan, 124.
Tuberculosis, Some Newer Aspects of Heredity in, and the Sanatorium Treatment, Baldwin, 323.
Tuberculosis, The Legal Struggle with, Bell, 298.
Tuberculosis, Yellow Fever and Leprosy, For Prevention of, 437.
Tunnel Accident, The N. Y. C. Railroad, 141.
Typhoid Fever in Philadelphia, The Cost of, 349.

Vaccination, Antitoxin and Tetanus, 32, 48.
Vaccination Bill, A New, 332.
Vaccination Creed, A, 152.
Vaccination, Efficacy of, 335.
Vaccination, Efficacy of, Welch, 37.
Vaccination—Important Resolutions, 67.
Vaccination, Report of the Committee of the N. Y. Co. Medical Society, 59.
Vaccine Lymph, 239.
Vaccine Virus and Antitoxin, 417.
Ventilation, New Plan for, Woodbridge, 112.
Village Improvement, The First Step in, 459.
Virchow as a Politician, 38.

Washington, The New, 266.
Water, Brooklyn, Again Not Fit to Drink, 325.
Water, Influence of, Upon Health and Longevity, Wood, 3.
Water Supply, Public, New Jersey's, Baldwin, 315.
Welch, W. M., Efficacy of Vaccination, 37.
What Know We, Montgomery, 461.
Wood, A. L., Influence of Water Upon Health and Longevity, 3; The Physician and the Public Schools, 206.
Woodbridge, S. H., New Plan for Ventilation, 112.
Woman and Marriage, 119.

Yellow Fever, Leprosy and Tuberculosis, For Prevention of, 437.
Yellow Fever, Reminiscences of, in Savannah, and the Results of Practical Sanitation, Le Hardy, 202.
Yellow Journals and the Young, 77.

2 gal
254+